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**Understanding Trauma Symptoms in Children and
Adolescents Exposed to Domestic Abuse:
A Research Portfolio**

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Submitted in part fulfilment of the degree of Doctorate in Clinical Psychology at
the University of Edinburgh

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THESIS ABSTRACT

Title: Understanding Trauma Symptoms in Children and Adolescents Exposed to Domestic Abuse: A Research Portfolio

Introduction: This thesis had two primary aims. The first aim was to systematically review the literature investigating trauma symptoms in children and adolescents aged five to eighteen years who had been exposed to domestic abuse. The second aim was to complete an empirical study investigating predictors of trauma symptoms and the relational nature of trauma in women and children aged five to eighteen years who had been exposed to domestic abuse.

Method: For the first aim, a systematic literature search identified eligible studies that met predefined inclusion criteria. Following data extraction, the studies were rated against methodological quality criteria. For the second aim, using a quantitative, cross-sectional design, 84 women self-reported on experiences of domestic abuse, symptoms of depression, anxiety, stress and trauma and their child's trauma symptoms. Analyses investigated the relationship between exposure to domestic abuse and trauma symptoms, predictors of trauma symptoms and whether maternal trauma symptoms moderated the relationship between exposure to domestic abuse and child trauma symptoms.

Results: The systematic review identified 14 studies that were eligible for inclusion. Two studies were rated as high quality, ten as acceptable quality and two as low quality. A consistent relationship between exposure to DA and trauma symptoms in children and adolescents was reported, regardless of study quality. The empirical study found a significant relationship between exposure to physical and psychological abuse and trauma symptoms in children aged five to eighteen years. Maternal trauma symptoms were both significantly correlated with and a significant predictor of child trauma symptoms supporting the relational nature of trauma in this population. The interaction was not significant, indicating that maternal trauma symptoms was not a moderator, and the relationship between domestic abuse and child trauma symptoms was present at low, medium and high levels of maternal trauma symptom severity.

Conclusion: Across included studies the systematic review found a consistent but variable prevalence of PTSD and trauma symptoms in children and adolescents exposed to domestic abuse, highlighting the importance of assessment and evidence based intervention in this population. Results should be interpreted whilst taking into account the strengths and limitations of individual studies and the overall review. The majority of children in the research study were experiencing trauma symptom severity within the range of clinical concern. The relational nature of trauma was supported in mothers and children exposed to domestic abuse highlighting that treatment should be family based and delivered concurrently to mothers and their children. Results are discussed and should be interpreted whilst considering the limitations discussed.

CHAPTER 1 - SYSTEMATIC REVIEW

This chapter contains a systematic review of the literature investigating trauma symptoms in children and adolescents who have been exposed to domestic abuse. This paper was written for submission to *The Journal of Family Violence*, which uses the American Psychological Association (APA) style of referencing. The guidelines for authors are provided in Appendix 1.1.

SYSTEMATIC REVIEW ABSTRACT

Title: Do children and adolescents who are exposed to domestic abuse develop trauma symptoms? A Systematic Review

Introduction: Past meta-analyses investigating outcomes in children exposed to domestic abuse have either not included, or included a limited number of, studies investigating trauma symptoms. Individual studies have reported variable prevalence of post-traumatic stress disorder (PTSD) diagnosis and trauma symptoms in children exposed to domestic abuse. A systematic review of literature investigating trauma symptoms in children and adolescents who have been exposed to domestic abuse was conducted to inform prevention, provision of service, intervention and areas of future research.

Method: An a priori protocol, data extraction tool and quality criteria were developed. The population for this review were children and adolescents aged five to eighteen years who had been assessed for trauma symptoms or PTSD following exposure to domestic abuse. A systematic literature search identified papers that were eligible based on predetermined inclusion and exclusion criteria. Data were extracted and studies rated against ten methodological criteria.

Results: Fourteen studies conducted between the years 1997 and 2017 in the United States of America, Mexico, Brazil, Canada, Australia and Sweden met eligibility criteria. All studies used a cross-sectional design. Participants were recruited mainly from community agencies and shelters supporting victims of domestic abuse and included 1692 children. Two studies were rated as high quality, ten as acceptable quality and two as low quality. Regardless of quality, all studies reported a relationship between exposure to domestic abuse and PTSD diagnosis or trauma symptoms in children and adolescents.

Conclusion: A consistent relationship was reported across studies highlighting the importance of appropriate trauma symptom assessment and intervention in children and adolescents exposed to domestic abuse. Future research should investigate risk and resilience factors associated with this relationship, aim to recruit a larger number of adolescents and children with varied ethnicity and socioeconomic status and assess trauma symptoms with developmentally appropriate criteria. Results should be interpreted taking into account review strengths and limitations.

1. Introduction

Prevalence and Impact of Domestic Abuse

Domestic abuse (DA) is widespread, with one in four women and one in six men exposed in their lifetime (Black et al., 2011; Garcia-Moreno, Jansen, Ellsberg, Heise, & Watts, 2006; Home Office, 2005, 2006). These figures are likely underestimates, as DA is a chronically under-reported crime (MacDonell, 2012; Tolan, Gorman-Smith, & Henry, 2006). In addition, variations in definitions, measurement and sampling of DA may influence prevalence statistics (National Institute for Health and Clinical Excellence (NICE), 2016).

DA is associated with negative outcomes for victims and high economic costs. In the United Kingdom during the year 2004, the total cost of DA for victims, employers and the state was estimated to be £23 billion when considering human and emotional costs (pain and suffering), services (criminal justice, health care, social services, housing, civil legal) and impact on economic output (Walby, 2004). As the use of services resulting from DA are not routinely collected, these figures are also likely underestimates (Walby, 2004).

Victims of DA can experience physical injuries which may result in permanent disability or death: it is estimated that two women are murdered by a current or ex-partner every week in England and Wales (Barnish, 2004; Flatley, 2015). Exposure to DA has also been associated with psychological problems including depression, anxiety, eating disorders, post-traumatic stress disorder (PTSD), substance abuse, somatic complaints, sleep disorders, self-harm and suicide (Home Office, 2005, 2006).

Domestic Abuse and Children

The United Nations International Children's Emergency Fund (UNICEF) (2006)

estimated a minimum of 240,000 children in the United Kingdom (UK) had been exposed to DA. In a UK study 3% of children and adolescents under seventeen years had experienced DA in the past twelve months (Radford et al., 2011). Retrospective studies report 24.8% of adults aged 18 to 24 years and 20-40% of adults older than 24 years were exposed to DA as a child or adolescent (Henning, Leitenberg, Coffey, Turner, & Bennett, 1996; Meltzer, Doos, Vostanis, Ford, & Goodman, 2009). The abusive behaviours that children experience can include: psychological abuse, stalking, threats against caregivers, threats of suicide, sexual abuse, physical abuse and fatal assaults with knives and guns (Carpenter & Stacks, 2009; Jaffe, Wolfe, & Wilson, 1990). Children who live with DA are exposed to approximately 80%-95% of incidents that occur (Fantuzzo, Fusco, & Mohr, 2007; Fusco & Fantuzzo, 2009). Children's exposure may involve directly observing, hearing, intervening, being caught up and harmed in incidents or being exposed to the aftermath of abuse (Holden, 2003).

Exposure to DA has been associated with negative outcomes in children, which often begin prior to birth. 30% of DA either begins or severity of abuse is intensified during pregnancy with potential outcomes including miscarriage, premature birth, physical injury, permanent disability, low birth weight and impact of maternal use of substances including alcohol, nicotine and drugs (Barnish, 2004; Department of Health, 2005; Huth-Bocks, Levendosky, Theran, & Bogat, 2004; Royal College of Psychiatrists, 2004). Exposure to DA in infants and preschool children is associated with insecure attachment, failure to thrive, difficulties eating and sleeping, developmental delay, behaviour problems, social difficulties, enuresis, hair loss, anxiety, fearfulness,

sadness, crying and withdrawal (Huth-Bocks, Levendosky, Semel, 2001; Radford & Sayer, 1999; Royal College of Psychiatrists, 2004; Zeanah, Danis, Hirschberg, Benoit, & Heller, 1999). School age children have been found to experience withdrawal, depression, sleeplessness, nightmares, aggression, self-harm, school refusal and negative effects on their school performance (McGee, 2000; Royal College of Psychiatrists, 2004). Adolescents may experience low self-esteem, physical symptoms, eating disorders, substance abuse, antisocial behaviour, anxiety, depression, difficulties relating to peers, aggression, self-harm and suicidal behaviour (Royal College of Psychiatrists, 2004).

Four meta-analyses have investigated outcomes in children exposed to DA. The average effect size for the relationship between exposure to DA and internalising problems (e.g. depression and anxiety) and externalising problems (e.g. aggression) was found to be small (Chan & Yeung, 2009; Wolfe, Crooks, Lee, McIntyre-Smith, & Jaffe, 2003), between small and moderate (Kitzmann, Gaylord, Holt, & Kenny, 2003), and moderate (Evans, Davies, & DiLillo, 2008). Due to high co-morbidity between outcomes and the range of both internalising and externalising symptoms in children exposed to DA, some authors have questioned whether these outcomes represent an overall trauma response (Jaffe et al., 1990; Lehmann, 2000; McCloskey, Figueredo, & Koss, 1995). The development of trauma symptoms and PTSD in children is more likely when the traumatic event involves caregivers as victims or perpetrators (Groves, Lieberman, Osofsky, & Fenichel, 2000; Scheeringa & Zeanah, 2001), as the child's trust that their attachment figure will provide a source of protection and safety may be affected (Groves et al., 2000).

In 2008, Lang and Smith Stover highlighted that in comparison to other outcomes, trauma symptoms in children exposed to DA had been studied less frequently. The

Kitzmann et al. (2003) and Wolfe et al. (2003) meta-analyses did not investigate trauma symptom outcomes due to lack of research. The Evans et al. (2008) meta-analysis found a large average effect size (based on six effect sizes) for the relationship between exposure to DA and child trauma symptoms. The Chan and Yeung (2009) meta-analysis found a moderate average effect size (based on four effect sizes) for the relationship between exposure to DA and child PTSD. As these effect sizes are based on a small number of studies with small sample sizes, both sets of authors highlight caution interpreting findings (Chan & Yeung, 2009; Evans et al., 2008).

Individual studies which have investigated trauma symptoms in children exposed to DA have found variable incidence of symptoms and PTSD diagnosis rates ranging from 13% (Graham-Bermann & Levendosky, 1998) to 95% (Kilpatrick & Williams, 1997). These results indicate that although trauma symptoms may be a negative outcome for some children exposed to DA, not all children show these effects. Potential variables which may influence whether children exposed to DA develop trauma symptoms include the duration, frequency and severity of abuse, the time since DA ended, age, gender and ethnicity of the child, the child's relationship to caregivers, the perpetrators relationship to the child and the child's coping skills (Lapierre, 2008). Factors relating to study design such as the definition of DA (one incident of abuse, chronic abuse, physical or emotional abuse), inclusion criteria, recruitment setting (community, school, clinical or shelter samples) and analysis (correlational or difference between groups) may also influence outcomes.

Living with DA has been linked to a number of additional stressors, including: socioeconomic disadvantage, social isolation, community violence, residential

instability, poor maternal physical and psychological health, child maltreatment (neglectful or abusive parenting), parental substance abuse, high levels of general family stress and exposure to additional traumatic events, which may also moderate children's response or act as confounding variables (Fantuzzo, Boruch, Beriama, & Atkins, 1997; Spaccarelli, 1994; Zarling et al., 2013). Due to the small number of available studies, variables which may influence the development of trauma symptoms were not investigated in meta-analyses (Chan & Yeung, 2009; Evans et al., 2008).

Summary

DA is associated with high prevalence, high financial cost and negative outcomes in victims and their children. Although theoretically important, past meta-analyses have either not included or included limited numbers of studies investigating trauma symptoms in children exposed to DA, due to the lack of available research at the time of publication. In addition, wide variation in research design, sampling, measurement, analysis and limited knowledge of potential moderating or confounding variables makes interpretation of individual studies difficult (Chan & Yeung, 2009; Evans et al., 2008). Difficulties with definition and measurement of both DA and child trauma symptoms also exist. This review systematically searched and evaluated research to investigate whether children and adolescents who are exposed to domestic abuse develop trauma symptoms and identify variables that may influence this relationship to inform prevention, assessment, formulation, intervention, provision of service and identify areas of required future research.

2. Method

2.1. Protocol

A predefined review protocol was developed based on the Centre for Reviews and

Dissemination (CRD) (2009) and the Scottish Intercollegiate Guidance Network (SIGN) (2015) guidance which detailed the objective, review question, population, definition of key constructs, inclusion and exclusion criteria, search strategy, data extraction tool and quality assessment criteria (Appendix 1.2). This review aimed to increase understanding of the relationship between exposure to DA and trauma symptoms or PTSD diagnosis in children and adolescents aged five to eighteen years through a systematic search and critical appraisal of existing literature, taking into account identified research limitations and knowledge gaps.

2.2 Definition of Key Constructs

Domestic Abuse

Terminology and definition of DA vary across studies; for example, terms include; domestic violence, intimate partner violence, marital conflict. The Home Office (2006) defines DA as *“any incident of threatening behaviour, violence or abuse (psychological, physical, sexual, financial or emotional) between adults who are or have been intimate partners”* (The Home Office, 2006, p.6). Johnson (1995) identified two forms of partner violence defined as intimate terrorism and situational couple violence. Intimate terrorism is characterised by controlling behaviours and chronic, repeated violence, which is perpetrated most commonly by men (Johnson, 2001). Perpetrators of intimate terrorism use a wide range of coercive control tactics including psychological abuse, isolation, children, male privilege, financial abuse, threats, intimidation, blaming and violence as identified in the Power and Control Wheel (Pence & Paymar, 1993). Situational couple violence is characterised by arguments and conflict between intimate partners that escalate into violence perpetrated equally by both genders. Johnson (1995) identified that intimate terrorism and DA describe

the same type of partner violence. The importance of identifying type of partner violence has been highlighted to ensure that outcomes reported accurately reflect exposure to DA (Johnson & Leone, 2005). Evidence included in this review will have defined DA based on The Home Office (2006) and intimate terrorism (Johnson, 1995) definitions. The DA to which the children have been exposed will have occurred within the relationship of their caregivers whether biological or step parents.

Trauma Symptoms

Evidence included in this review will have used Diagnostic and Statistical Manual of Mental Disorders (DSM) III (American Psychiatric Association (APA), 1980), DSM III-R (APA, 1987), DSM IV (APA, 1994), DSM IV-TR (APA, 2000), DSM V (APA, 2013) or ICD 10 (World Health Organisation (WHO), 1992), PTSD diagnostic criteria or a questionnaire designed to detect trauma symptoms in children and adolescents who have been exposed to DA.

2.3. Inclusion and Exclusion Criteria

Studies were eligible if the primary research question aimed to investigate trauma symptoms in children and adolescents exposed to DA. In addition, a measure of exposure to DA and a measure of child and adolescent trauma symptoms or PTSD diagnosis had to be included. Study participants could include adults reporting child symptoms or children reporting their own symptoms. Studies with children aged five to eighteen years of any gender, ethnicity or nationality were eligible. Studies investigating trauma symptoms or PTSD diagnosis in children under age five years were excluded due to difficulties conceptualising and assessing trauma symptoms in young children (Scheeringa, Zeanah, Drell, & Larrieu, 1995) and the likely need for

modified criteria to assess quality. All types of quantitative research studies, available in full text and published in peer reviewed journals with no restriction on date of publication were eligible for inclusion. Due to limited resources, a search of unpublished research was not conducted and included studies were limited to those published in peer reviewed journals in an attempt to increase the quality of research. Included studies were limited to those published in English language due to lack of resources to enable translation. Eligible studies published in a language other than English were identified to acknowledge any bias that may have been introduced. Review articles or meta-analyses which did not present new data were excluded. Inclusion and exclusion criteria are provided in Table 1.1.

Table 1.1. - Inclusion and Exclusion Criteria

INCLUSION CRITERIA	EXCLUSION CRITERIA
Studies with a primary research question which aimed to investigate trauma symptoms in children and adolescents exposed to domestic abuse (not marital conflict) between caregivers which included a measure of exposure to domestic abuse and a measure of child and adolescent trauma symptoms or posttraumatic stress disorder diagnosis	Qualitative studies
Children and adolescents aged five to eighteen years old of any gender regardless of ethnicity or nationality	Non-English language studies
All types of relevant quantitative research studies published in peer reviewed journals	Review articles, meta-analyses, book chapters, unpublished dissertations, theses, conference abstracts
Studies available in full text	
All years of publication	

2.4. Search Strategy

The Published International Literature on Traumatic Stress (PILOTS) electronic database was initially searched on 10th, 11th and 12th May 2015 using the ProQuest interface from database inception to May week two, 2015. The PsycINFO electronic database was initially searched using the OVID interface on 16th and 17th May 2015

from database inception to May week two, 2015. The Medline database was initially searched using the OVID interface on 30th and 31st May 2015 for the period 1966 to May week four, 2015. The Cochrane Database of Systematic Reviews was initially searched on 1st June 2015 from database inception to week four, May 2015. Searches were repeated prior to review completion to ensure that the most recent evidence was included. The PILOTS database was searched using the ProQuest interface on the 2nd and 3rd April 2017, the PsycINFO and Medline databases were searched using the OVID interface on the 4th and 5th April 2017 and the Cochrane database was searched on the 6th April 2017. Databases were searched using keywords: domestic abuse, domestic violence, interpersonal violence, family violence, marital violence, interpersonal abuse, marital abuse, intimate partner violence, partner abuse, battered females, marital conflict, spouse abuse, child, children, adolescent, adolescents, youth, trauma, trauma symptoms, PTSD, complex PTSD, posttraumatic stress disorder and posttraumatic stress disorder symptoms. The inclusion of peer reviewed journals were the only limits applied.

A multistage strategy was used to identify studies for inclusion. The first stage involved screening each study title against the pre-determined criteria and excluding studies which were not eligible for inclusion (Table 1.1). Any doubt over eligibility was met with caution and the study retained for the next stage to reduce the risk of missing eligible research. The second stage involved screening each study abstract against the criteria and excluding those which were not eligible for inclusion. Again, any doubt over eligibility was met with caution and the study retained. The third stage involved screening the full text of each remaining study against the criteria, excluding those which were not eligible and retaining those which met criteria and were eligible

for inclusion. The full database search strategy is available in Appendix 1.3.

The reference lists of included studies, identified review articles and meta-analyses were searched to identify any eligible research missed in the electronic database searches. The authors of included studies were contacted to identify further research that had investigated trauma outcomes in children and adolescents exposed to DA. All eligible studies were reviewed independently by two researchers to ensure consistency in inclusion decisions, with 100% agreement.

2.5. Data Extraction

As part of the predetermined review protocol a data extraction tool was developed following CRD (2009) guidance (Appendix 1.6). This allowed extraction of relevant data to aid with the assessment of study quality. Data extracted included the citation, country of study, research design, question and aims, definition of DA, recruitment strategy, population, sample, measurement tools, statistical analysis, results, conclusions, limitations and analysis of confounding variables.

2.6. Critical Appraisal

Quality assessment criteria were created as part of the review protocol and were based on CRD (2009) quality assessment criteria and SIGN (2015) guidelines for systematic reviews (Appendix 1.7). To assess the quality of the studies, ten methodological criteria were developed that a high quality study investigating trauma symptoms in children and adolescents exposed to DA should meet in order to minimise bias and increase confidence in findings. Quality criteria assessed the definition of DA, representation of the population of interest, rates of participation and attrition, sample characteristics, reliability and validity of measures, power, statistical analysis, measurement of confounding variables and overall study bias. Each paper was allocated a category of well covered, adequately addressed or poorly addressed for

each individual criterion and an overall study category of high quality, acceptable quality or low quality research study. The quality of studies were independently appraised by two reviewers. The reviewers then compared ratings of each quality criterion and overall study category for each of the included studies. Exact agreement on quality criterion ratings occurred 76% (n=106), 24% (n=34) differed by one rating, 0% differed by two ratings. Exact agreement on overall study category occurred 93% (n=13). All criteria where differences in ratings existed were reviewed jointly, a decision category agreed and results amended. It was planned that if agreement could not be reached advice would be sought from a third reviewer, although this was not necessary.

3. Results

3.1. Search Results

A total of 4729 titles and abstracts were screened for inclusion following database and reference list searches. Of these, 4395 did not meet inclusion criteria, 92 papers were duplicate records and 36 were review articles and meta-analyses. 206 full text articles were screened for eligibility, of these 192 did not meet inclusion criteria which left 14 eligible studies for inclusion in this review. From the 14 study authors contacted, 8 responded (57%) and suggested an additional 17 published studies, all of which were known to the author. A list of review articles and meta-analyses reviewed and reference lists searched are provided in Appendix 1.4. A list of the full text articles reviewed and excluded with reasons for exclusion are provided in Appendix 1.5. Figure 1 illustrates the search strategy and results using the flowchart adapted from the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement (Moher, Liberati, Tetzlaff, & Altman, 2009).

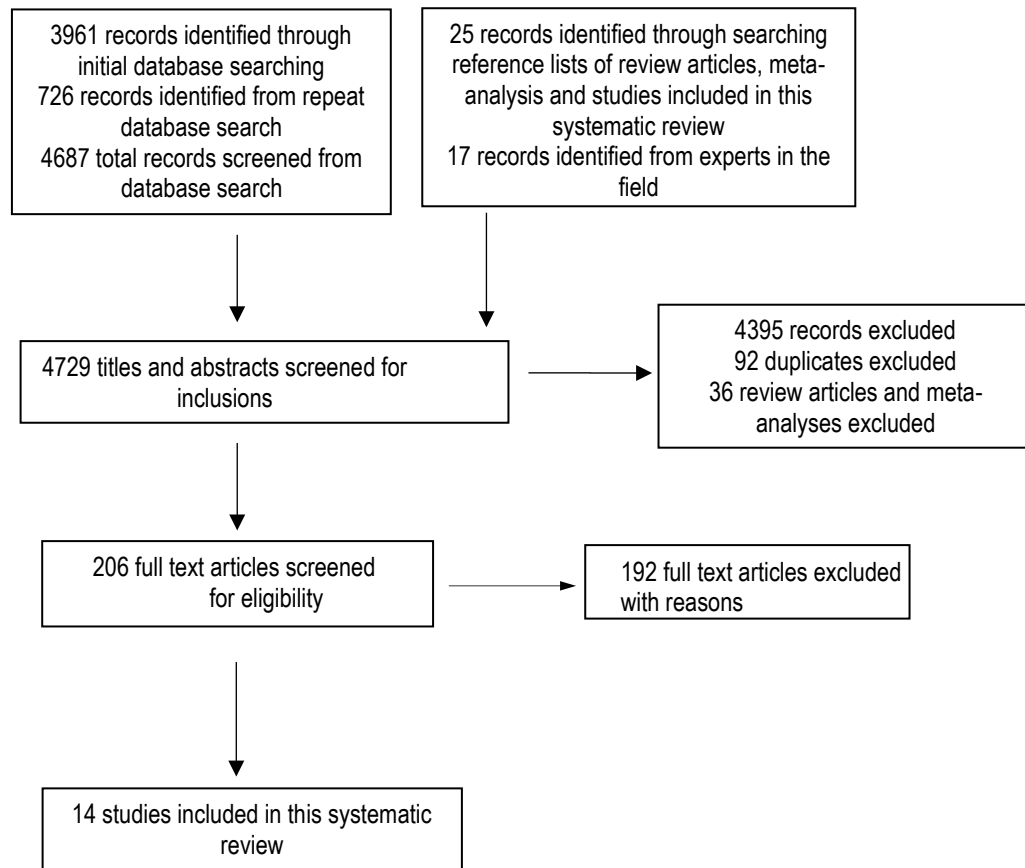


Figure 1 – Search Strategy Flowchart

(Moher et al., 2009)

3.2. Summary of Included Studies

Year and Country of Publication

The 14 included studies were conducted between the years of 1997 and 2017. Eight studies were conducted in the United States of America (USA), one in the USA and Mexico, one in Brazil, one in Canada, two in Australia and one in Sweden.

Study Design

All studies reported a cross-sectional design (n=14), five studies analysed comparisons between groups of children who had and had not been exposed to DA and the remaining nine studies used a single sample of children exposed to DA to analyse outcomes.

Recruitment

Across studies, recruitment of children who had been exposed to DA took place in a variety of settings. Approximately 28.5% (n=483) were recruited from community agencies supporting women who had been victims of DA, 5% (n=84) were recruited from a combination of community DA agencies and children living in shelters, 2% (n=40) had been recruited from a general community sample (e.g. advertisements in shops and newspapers), 10% (n=170) were recruited from a combination of shelters and general community, 3% (n=48) were recruited from a community sample where police had attended homes of victims following an incident of DA, 27.5% (n=451) were recruited while living in shelters, 10% (n=170) were recruited from a combination of a shelter and general community sample, 2% (n=38) were recruited from social services and 12% (n=208) were recruited from a combination of social services and the general community.

Participants

Across studies participants included 1692 children who had been exposed to DA, 1404 women who had been victims of DA (the child's mother) and 481 children who had not been exposed to DA acted as controls. Study characteristics and participant demographics for children exposed to DA were not always clear, however the available information was summarised across studies. Gender was evenly split as 51% boys and 50% girls who had been exposed to DA were included (n=1107). Across all studies age ranged from 5 to 19 years. Six studies had included children aged from 6 to 12 years (n= 613), three included children aged from 5 to 13 years (n=451), one included children aged 9 to 15 years (n= 84), one study included children aged 8 to 16 years (n=56), one included children aged 5 to 17 years (n=94) and one included children age 7 to 19 years (n=41).

The final study reported a mean age of 7 years. Ethnicity was reported for fewer than a third of children (n=479). Where ethnicity was reported, 40% of children were recorded as Latino/ Hispanic, 37% Caucasian, 20% African American and 3% other. Seven studies highlighted that participants reported low income. A summary of the 14 included studies is provided in Table 1.2.

Table 1.2 – Summary of Included Studies

Study Number/ Author/ Country of Study	Research Design/ Question/ Aims	Setting/ Recruitment Strategy/ Participation rates	Number of Participants, Gender, Age, Ethnicity, Socio- economic status	Method	DA definition/ Domestic Abuse Measure	Trauma Symptoms/ PTSD Diagnosis Measure	Results/ Conclusions
STUDY 1 Kilpatrick, K.L., & Williams, L.M. (1997). Post-traumatic stress disorder in child witnesses to domestic violence. <i>American</i> <i>Journal of</i> <i>Orthopsychiatry,</i> 67 (4), 639-644. Australia.	Examined PTSD symptoms in child witnesses and non-witnesses to DA.	Recruited from community agencies providing support for disadvantaged families and abused women. 1/3 of the agencies provided referrals which initially totalled 58 participants. 12 non-witnesses and 11 witnesses were excluded because they had been exposed to other traumatic events (e.g. child maltreatment, road traffic accident, witness serious injury/ death/ severe or prolonged illness.	35 children (20 witnesses to DA and 15 non-witnesses). Witness group; n=13 males n=7 females, Age range 6-12 years, mean 8.1 years. Non-witness group; n=5 males n=10 females, Age range 6-12 years, mean 8.6 years. All Australian of Anglo-Saxon descent.	Cross sectional. Interviews. Staff from the agencies referred participants to the study authors. Mothers assigned to DA or non-DA group based on responses to DA questionnaire. Child included in the witness or non-witness group if both mother and child confirmed witness status.	Conflict Tactics Scale (physical abuse) (Straus, 1979). Mother report. DA defined as acts of violence between caregivers. Range of 6 weeks -3 years since the child had witnessed violence. Number of violent episodes in last 12 months: 1-3=15% 4-6=15% 7-10=25% >10=45%.	Child Post- Traumatic Stress Reaction Index (Pynoos & Nader, 1988). Child report.	19 out of 20 child witnesses qualified for a diagnosis of PTSD (2 mild, 8 moderate, 9 severe). No child non-witnesses qualified for a diagnosis of PTSD. Child gender was not significantly related to PTSD. Children were screened for sexual abuse, physical abuse, natural disasters, severe RTA or other accident, witness of serious injury or death of another, severe and prolonged illness. Children were excluded if they had experienced any of these events. Mean score PTSRI 36.7 (S.D 6.5) in witness group, 8.6 (S.D 3.0) in non-witness group. Chi-square analysis indicated a significant association between witness status and PTSD diagnosis. Conclusion: child witnesses to DA are particularly vulnerable to PTSD.

STUDY 2 Lehmann, P. (1997). The development of post-traumatic stress disorder in a sample of child witnesses to mother assault. <i>Journal of Family Violence</i> , 12 (3), 241-257. USA.	Examined PTSD in children who had witnessed DA and had entered shelters for abused women. Children witnesses who did or did not meet PTSD criteria were compared on demographic and adjustment measures.	Recruited from DA shelters and child protection agencies.	84 children and 67 mothers. 83% referred from shelters and 17% referred from child protection agencies. 48 males, 36 females. Age range 9-15 years (mean age 11 years). Mothers living 'below the poverty line'. Ethnicity not reported.	Cross-sectional. Interviews. Children and mothers who had been resident in the DA shelter were informed of the study 1-2 weeks after entry by their shelter advocate. Child protection agency caseworkers informed potential participants of the study. Participants met the researcher at home or in the shelter.	History of Violence Witnessed by Child Questionnaire (Lehmann & Wolfe, 1992). Mother report. Exposure to DA defined by child witnessing mother assault and having contact with shelters for battered women.	The Children's Impact of Traumatic Events Scale – Family Violence Form (CITES-FVF) (Wolfe and Lehmann, 1992). Child report. Data from this questionnaire were examined with reference to DSM-III-R criteria for PTSD.	47 (56%) children met criteria for PTSD. 37 (44%) children did not meet criteria for PTSD. Hierarchical multiple regressions predicted total score on PTSD measure. Regression model $R^2=.71$: gender and age=8%, frequency, duration and number of abusive role models =16%, negative attributions of personal vulnerability (dangerous world, self-blame) = 54%. Chi-square analysis of samples who met and did not meet PTSD. Children who met criteria for PTSD were younger, had longer duration of witnessing, higher frequency of witnessed violence and had more abusive male role models compared to children who did not meet criteria. Gender, number of partner separations and number of children in the family did not differ.
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STUDY 3 Graham-Bermann, S.A., & Levendosky, A.A. (1998). Traumatic stress symptoms in children of battered women. <i>Journal of Interpersonal Violence</i> , 13(1), 111-128. USA.	Examined the range of trauma symptoms found in children who have witnessed the physical and psychological maltreatment of their mother or mothers partner in the past year.	Participants recruited through DA shelters, food stamp offices, posters in neighbourhood buildings and shops and community intervention programmes for battered women.	64 children and their mothers. 38 social services flyers. 10 shelters. 8 DA community support groups. 8 general flyers and newspaper advertisements. 33 boys 31 girls Age range 7 to 12 years (mean age 9.5 years). Low average monthly income reported. 35 Caucasian, 21 African American, 8 other (45% ethnic minority groups).	Cross-sectional. Interviews.	Conflict Tactics Scale (Straus, 1979). Mother report. The Severity of Violence Against Women Scale (Marshall, 1992). Mother report. Definition DA=physical and emotional maltreatment of mother by father or mothers partner in the past year.	Measured with the diagnostic criteria for PTSD in adults and adapted for use with children in this study (17 symptom questions assessed). Mother report.	8 children (13%) met complete diagnostic criteria for PTSD (DSM-IV). 70% children witnessed DA directly, the remainder overheard. 52% intrusive remembering of the traumatic event. 19% traumatic avoidance. 42% traumatic arousal. No significant difference in PTSD between males and females. No significant difference in PTSD in children who had or had not been physically abused. Children with PTSD had significantly more internalising and externalising symptoms than those without PTSD.
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STUDY 4 Mc Closkey, L.A., & Walker, M. (2000). Post Traumatic stress in children exposed to family violence and single event trauma. <i>Journal of the American Academy of Child and Adolescent Psychiatry</i> , 39 (1), 108-115. USA.	Examined PTSD and other co morbid forms of psycho-pathology in a sample of children exposed to chronic abuse and single event trauma.	Participants recruited from DA shelters and community advertisements. 337 participants from 363 potential. Various violent/ traumatic events were assessed (crime, death, illness, violence, accidents).	n= 337 children and their mothers. n=170 exposed to DA. n=167 comparison group. 51% female children. Age range 6-12 years (mean 9.3 years). Low income reported overall and DA group significantly lower income than comparison group. Anglo 53.7% Hispanic 34.4% Other 11.8%.	Cross-sectional. Interviews. Child asked to describe a terrifying event: 40%=DA 36%=accident 16%=violent crime 8%=death/ serious illness Q. How often does your mother get hurt when your parents argue or fight?	Items from the Conflict Tactics Scale (Straus, 1979). Mother report.	A 12-item inventory derived from PTSD criteria established in the DSM-III-R (APA, 1987). Child report.	From 337 children 49% saw their father attack their mother. 19% (n=52) child witnesses to DA met criteria for PTSD. 34% of children who had also been physically abused met criteria for PTSD. Children who met criteria for PTSD were most likely to show symptoms characteristic of phobias, separation anxiety and oppositional disorder. Children who met PTSD criteria were similar for age and gender.
STUDY 5 Rossmann, B.B.R. (2000). Multiple risks for children exposed to parental violence. <i>Journal of Aggression, Maltreatment and Trauma</i> , 2 (2), 207-237. USA.	Examined whether children exposed to DA show higher levels of trauma symptoms than non-exposed children.	Recruited from the community, schools, DA agencies, DA shelters across six projects.	508 children and mothers. 4 groups; community non exposed n=233 community exposed n=32 shelter exposed n=180 shelter exposed and child abuse (48% physical abuse, 29% sexual abuse, 7% neglect, 16% psychological abuse) n=63. Age range 5-13 years.	Cross-sectional data Quasi-experimental. Interviews. Data gathered across six studies.	Conflict Tactics Scale (Straus, 1979). Maternal report. DA experience ranged from mild verbal arguing to severe and repeated marital violence.	PTSD subscale scores from the Child Behaviour Checklist (Achenbach & Edelbrock, 1983). Maternal report. For some projects the PTSD Reaction Index (Pynoos et al, 1987). Maternal report, child report, shelter worker report.	Analysis of variance used to examine group differences on demographic, DA and outcome measures. Levels of post- traumatic stress symptoms were elevated on both PTSD measures. Socio-economic status was significantly lower in the children exposed to DA.

STUDY 6 Lehmann, P., & Elliston, E.J. (2001). Traumatic responding in children exposed to domestic violence: A cross cultural study. <i>Journal of Ethnic and Cultural Diversity in Social Work</i> , 10 (4), 81-102. Mexico and USA.	Examined the nature of PTSD symptoms across 3 groups of children; Mexican, Mexican-American (Texas) and non-Mexican American (Texas).	Recruited from 3 DA shelters. One in Mexico and two in the USA. Women were informed of the study by shelter advocates shortly after they moved into the shelter.	68 mothers and 90 children. Children's mean age was 7 years old.	Cross-sectional. Interviews.	Checklist of controlling behaviours (measured; physical, sexual and psychological abuse, intimidation, isolation, minimising, denial, abuse of pets, threats, male privilege, blaming). (Lehmann, 1996a). Maternal Report.	Parental Response to Child Trauma (Lehmann, 1996b) from DSM-IV. Maternal report.	72% (n=65) children experienced at least 2 traumatic feelings of terror or helplessness. 98% 1/6 re-experiencing. 52% 3/7 avoidance. 74% 2/5 hyperarousal. No differences in trauma symptoms were found between groups. Multiple regression analysis revealed that mothers' experiences of DA predicted greater trauma responses in children.
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STUDY 7 Mertin, P., & Mohr, P.B. (2002). Incidence and correlates of post-trauma symptoms in children from backgrounds of domestic violence. <i>Violence and Victims</i> , 17 (5), 555-567. Australia.	Examined the incidence and types of post-traumatic symptoms and associations with anxiety, depression and anger in children exposed to DA.	Participants were current or former shelter residents.	56 children and their mothers. 32 male 24 female. Age range 8-16 years (mean 10 years).	Cross- sectional. Interviews. Families were informed of the study by shelter staff. Interviewed by researchers in shelters or community mental health centre's.	Adapted Conflict Tactics Scale (Straus, Hamby, Boney-McCoy, & Sugarman, 1996). (Physical abuse scale extended to 18-items that also measured verbal, financial and sexual abuse) Mother report.	Post- traumatic Stress Disorder Interview Schedule (Mertin & Mohr, 2000). (Developed from DSM-IV diagnostic criteria). Trauma Symptom Checklist for Children (Briere, 1996). Children's Impact of Events Scale (Horowitz, Wilner, & Alvarez, 1979). All child report.	11 (20%) of the children (5 male and 6 female) met criteria for a diagnosis of PTSD. Children meeting criteria for PTSD scored significantly higher on measures of anxiety, depression and dissociation. No significant gender or age differences. DA relationship: women had been separated for an average of 20 months, 24% of children had continued contact with their father (perpetrator). 82% of women reported being harassed after separation.
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STUDY 8 Jarvis, K.L., Gordon, E.E., & Novaco, R.W. (2005). Psychological distress of children and mothers in domestic violence emergency shelters. <i>Journal of</i> <i>Family</i> <i>Violence</i> , 20 (6), 389-402. USA.	Examined the psychological distress of abused mothers and their children and relationships between maternal psychological functioning, child psychological functioning and the mother and child relationship.	Recruited from 2 DA shelters where mothers and children were residing. 1 declined participation. The children and their mothers had been receiving individual and group counselling.	42 children and 30 mothers. 15 females, 27 males. Age range 6-12 years (mean 9.4 years).	Cross-sectional. Interviews. Shelter staff informed families of the project. Met with the researcher to complete interview. Assessed frequency of violence, child abuse, attempts of child to intervene in abuse, the mother-child relationship, maternal depression, anxiety, and anger.	Conflict Tactics Scale Revised (Straus et al., 1996) (measures physical and psychological abuse, sexual coercion and injuries). Mother report. Mothers reported severe physical violence, 33% children were direct targets, and 70% intervened.	Child Post- traumatic Stress Reaction Index (PTSRI) (Frederick, 1985). Child Report.	On average the children's PTSRI scores were reported to be high (mean 43.5, S.D 10.9); 10% very severe, 50% severe, 40% moderate. Regression analysis suggested that child PTSD symptoms were associated with more frequent and longer duration of DA. The amount of violence (frequency and duration) exposure was significantly related to child PTSD symptoms, but not behaviour problems. Children's intervention in DA had a significant relationship to child PTSD symptoms and maternal depression. No significant differences were identified in child PTSD symptoms by age, gender, whether the child had experienced direct abuse in addition to DA exposure and maternal emotional distress.
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STUDY 9 Saltzman, K.M., Holden, G.W., & Holahan, C.J. (2005). The psychobiology of children exposed to marital violence. <i>Journal of Clinical Child and Adolescent Psychology</i> , 34 (1), 129-139. USA.	Examined whether children exposed to DA would have higher levels of trauma symptoms and different physiological presentations when compared to a clinical comparison group.	Community sample of children living in homes exposed to DA. Families had contact with the police (children who had an identified incident of DA). 75% of those eligible to participate agreed but 50% no show rate in the service. 21/60 potential participants. Comparison group with no DA recruited from a children's mental health centre.	48 children, age range 5-13 years. 21 exposed to DA, 15 males and 6 girls, mean age 8.29 years, 11 Hispanic, 8 Caucasian, and 2 African American. 27 clinical comparison group, 16 males and 11 females, mean age 8.52 years, 6 Hispanic, 19 Caucasian, 1 African American, and 1 Native American.	Cross-sectional. The children exposed to DA were recruited from a victim services unit following a recent DA incident where police attended. The counsellor in the unit informed potential participants of the study. The comparison children were recruited via a flyer in the waiting room of a children's mental health centre presenting with symptoms such as anxiety, depression and behaviour problems.	Conflict Tactics Scale Revised (Straus et al., 1996) (only measured frequency of physical abuse). Mother report	Trauma Symptom Checklist for Children (TSCC) (Briere, 1996). Child report.	Children exposed to DA had significantly higher TSCC scores (Mean=50.95, S.D=21.99) than did the comparison group (Mean=29.07, S.D=18.41). 48% mothers of children exposed to DA reported that their children had also been the target of physical abuse. There was a main effect of exposure to DA on the TSCC total score controlling for family income and child abuse score. Concluded children who had been exposed to DA had significantly higher trauma symptom scores.
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STUDY 10 Graham-Bermann, S.A., DeVoe, E.R., Mattis, J.S., Lynch, S., & Thomas, S.A. (2006). Ecological predictors of traumatic stress symptoms in Caucasian and ethnic minority children exposed to intimate partner violence. <i>Violence Against Women</i> , 12 (7), 1-30. USA.	Examined rates of PTSD and ecological predictors of variance in traumatic stress symptoms for both Caucasian and Ethnic Minority children.	Recruited via advertisements in newspapers, flyers in grocery stores and flyers in social service departments. Participants were living in the community and approximately 5% were living in shelters at the time of the study.	218 children. Gender was reported to be evenly split. Age range 5-13 years (Mean 8.49 years). 52% Caucasian 34% African American 9.5% Biracial 1.4% Hispanic 1.8% Native American 1.3% other. Mother's income was reported as low but varied (Mean=\$1245 S.D=\$1352).	Cross-sectional. Interviews with mothers following participants response to the advertisement.	Mother report. Severity of Violence Against Women Scale (Marshall, 1992). Mother report.	The Traumatic Stress Symptoms Child Scale (TSSC) (Briere, 1996). Mother's interview reflected criteria established for diagnosing PTSD in DSM-IV (APA, 1994). Mother report.	71% children exposed to severe violence tactics, 78% mild violence tactics, 19% sexual violence tactics, 83% physical threats, 92% coercion and control tactics. Mean total TSSC scores 6.40 (S.D=4.24), range 0-16. Authors reported that the majority of children showed traumatic stress reactions and 25% of the children exposed to DA met diagnostic criteria for PTSD. For Caucasian children, the best predictors were mothers' mental health and low self-esteem. For minority children, the amount of violence, mothers' low self-esteem, and low income predicted traumatic stress. Social support to the mother was a protective element. 33% Caucasian children met criteria for PTSD. 17% ethnic minority children met criteria for PTSD – significant difference. Age, gender, mother's education and mother's marital status did not affect PTSD outcomes.
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STUDY 11 Georgsson, A., Almqvist, K., & Broberg, A.G. (2011). Dissimilarity in vulnerability: Self-reported symptoms among children with experiences of intimate partner violence. <i>Child</i> <i>Psychiatry and</i> <i>Human</i> <i>Development,</i> 42, 539-556. Sweden.	Examined psychological problems and symptoms in children who had been exposed to DA.	Recruited from a treatment programme for children whose mothers had experienced DA. The abusive relationship had ended. 159 children were considered for treatment. 112 accepted. 78% agreed to participate of which 87% were 7- 19 years n=41.	41 children. 23 females 18 males. Age range 7-19 years (mean 11 years). 50% children had mother from Sweden the remainder had mothers who were born in other countries.	Cross-sectional. Interviews. Mothers were informed about the research when they enrolled for the treatment programme. Data were collected before or in the early part of treatment.	Severity of violence was measured on a scale of severity from 1-11. Various forms of abuse were measured (threats, physical abuse, sexual abuse). The total number of categories was used to assess severity. Maternal report.	Children's Revised Impact of Events Scale (CRIES 13). (Perrin, Meiser, Stedman, & Smith, 2005). Child report.	67% of the children (n=26) scored above 17 on the CRIES, indicating probable PTSD. 44% had continued contact with their father. Maternal general psychological distress and trauma symptoms were not related to child PTSD. No gender or age differences were found for trauma symptoms.
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<p>STUDY 12 Tailor, K., Stewart-Tufescu, A., & Piotrowski, C. (2015). Children exposed to intimate partner violence: Influences of parenting, family distress and siblings. <i>Journal of Family Psychology</i>, 29 (1), 29-38.</p> <p>Canada.</p>	<p>Investigated associations between maternal stress, parenting behaviour and sibling adjustment in relation to child trauma symptoms in families with and without a history of DA.</p>	<p>Recruited from community; newspaper ads., mail flyers, posters in public venues such as libraries, supermarkets, counselling agencies, waiting areas.</p> <p>All mothers who had experienced DA were currently or had previously received counselling relating to their DA experiences.</p>	<p>DA group (older age sibling) n=47, 6-17 years (mean 11.33), 28 male, 19 female. DA group (younger age sibling) n=47, 5-15 years (mean 8.51), 27 male, 20 female. Non DA group (older age sibling) n=45, 6-19 years (mean 10.88), 19 male, 26 female. Non DA group (younger age sibling) n=45, 5-16 years (mean 8.20), 21 male, 24 female.</p> <p>Disadvantaged, low income sample 66% were below low income cut off.</p>	<p>Cross-sectional.</p> <p>Women asked if their children were present at home during a violent or abusive incident. If yes asked how long did this last and recruited into appropriate group.</p>	<p>Conflict Tactics Scale (Straus, 1979). (Physical violence).</p> <p>Mother report.</p> <p>Last 12 months abuse assessed.</p>	<p>PTSD subscale scores from the Child Behaviour Checklist (Achenbach & Edelbrock, 1983).</p> <p>Maternal report.</p> <p>Mother's completed this twice, once for each sibling.</p>	<p>Sibling trauma symptoms and negative maternal behaviour towards a sibling were strong predictors of trauma symptoms for younger and modest predictors for older siblings.</p> <p>Older siblings had been exposed to DA 44% of their life. Younger children were exposed to DA 40% of their life.</p> <p>When mother's stress was high older child's trauma symptoms were linked to the younger child's trauma symptoms.</p> <p>In older children exposed to DA mean trauma symptoms score =13.67 (S.D =6.16), compared to mean trauma score in older children not exposed to DA =8.47 (S.D =5.28), this difference was significant, $t = 4.28, p < .001$. In younger siblings exposed to DA mean trauma symptoms score =10.75 (S.D =5.98), compared to mean trauma score in younger children not exposed to DA =7.49 (S.D =5.14), this difference was significant, $t = 2.79, p = .006$.</p>
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STUDY 13 McDonald, S.E., Shin, S., Corona, R., Maternick, A., Graham-Bermann, S.A., Ascione, F.R., & Williams, J.H. (2016). Children exposed to intimate partner violence: Identifying differential effects of family environment on children's trauma and psychopathology symptoms through regression mixture models. <i>Child Abuse and Neglect</i> , 58, 1-11. USA.	Examined the degree differential effects of the severity of DA exposure, income and number of children in the family have on PTSD symptoms, internalising and externalising problems among school-aged children exposed to DA.	Recruited from 22 community-based DA agencies. Required DA in the past year, 1 child aged 7-12 years and 1 pet at home. Women selected the child they wanted to participate.	289 maternal caregiver-child dyads. (2 excluded due to missing data). 47% female children. Mean age 9.07. 55.2% Latino/Hispanic 22% white 3.4% African American 0.3% Asian.	Cross-Sectional.	Child Exposure to Domestic Violence Scale (Edleson et al., 2007). measures: 1. Violence. 2. Violence at home. 3. Violence in the community. 4. Involvement in violence. 5. Risk factors. 6. Other victimisation. Child report. 0-10 severity scores.	PTSD subscale scores from the Child Behaviour Checklist (Achenbach & Edelbrock, 1983). Maternal report.	Overall sample PTSD = 61.31% (n=289). 3 classes were identified distinguished by the severity of DA exposure on symptoms. 1. Asymptomatic 66% (n=190) children – low sensitivity to environmental factors PTSD = 51.65. Child PTSD related to number of children in the family. 2. Maladjusted with moderate severity 24% (n=69) PTSD= 67.12. PTSD was significantly related to DA and number of children in the family. 3. Highly Maladjusted 10% (n=30) with high sensitivity PTSD = 81.37. PTSD significantly related to DA, number of children in the family and income. Latino children were less likely to be maladjusted and highly maladjusted.
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STUDY 14 Boeckel, M.G., Wagner, A., & Grassi-Olviera, R. (2017). The effects of intimate partner violence exposure on the maternal bond and PTSD symptoms of children. <i>Journal of Interpersonal Violence</i> , 32 (7), 1127-1142. Brazil.	Examined the impact of DA and emotional regulation difficulties on the maternal bond and PTSD symptoms in children.	DA group recruited through a community centre for helping female victims of DA. All women had left their partner, no ongoing abuse. Control participants were recruited from schools, women's clubs and community associations. Low income sample.	DA dyads (mother and child) n=36, control dyads n=27. Child age 6-12 years. Initially 45 women who had experienced DA were invited to participate but excluded (2 substance use during the last 10 days, depression with psychotic symptoms, 3 declined to participate, 2 did not attend the scheduled interview). Initially 45 controls but excluded (9 women having experienced psychological DA, 8 clinical depression, 1 declined). Children 6-12 years.	Cross sectional. Face to face interviews.	Conflict Tactics Scale Revised (Straus et al., 1996) (measures physical and psychological abuse, sexual coercion and injuries). Mother report	Child PTSD Symptom Scale (PSS-SR) (Foa, Johnson, Treadwell, & Kimberli, 2001). Child self-report	Child PTSD score DA=14.8 (66.7% PTSD), control PTSD = 3.18 (14.8%). Higher PTSD in DA group when compared to controls. Positive association between severity of IPV, PTSD symptom severity in children and emotional regulation difficulties in women. Negative association between DA and quality of maternal bond. Conclusions – children exposed to DA reported significantly higher trauma symptoms compared to controls, difficulties in maternal emotion regulation and sexual DA affect the quality of the maternal bond in victims of DA.
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3.3. Assessment of Study Quality

Quality Criteria 1 - Definition of Domestic Abuse

Seven studies met criteria for well covered, as the definition of DA included repeated physical, psychological, sexual, financial or psychological abuse based on a variety of coercive control tactics as defined in the wider literature base (Boeckel et al., 2017; Georgsson, Almqvist, & Broberg, 2011; Graham-Bermann & Levendosky, 1998; Graham-Bermann, DeVoe, Mattis, Lynch, & Thomas, 2006; Jarvis, Gordon, & Novaco, 2005; Lehmann & Elliston, 2001; Mertin & Mohr, 2002). The remaining seven studies had defined DA based on acts of physical violence, acts of physical violence police had attended or physical violence which had led to the family moving into a shelter. Although only physical abuse was measured, due to the severity of the violence it was likely that these women were experiencing DA, therefore because potential bias was minimal these studies were allocated a category of adequately addressed (Kilpatrick & Williams, 1997; Lehmann, 1997; McCloskey & Walker, 2000; McDonald et al., 2016; Rossman, 2000; Saltzman, Holden, & Holahan, 2005; Tailor et al., 2015).

Quality Criteria 2 - Recruitment Strategy Ensures Representativeness of the Population of Interest

Two studies met criteria for well covered, as the inclusion criteria and recruitment strategy enabled a good representation of the wider population of interest. In well covered studies recruitment had taken place in a variety of settings including the general community (shops, newsagents), social services and shelters (Graham-Bermann et al., 2006; Tailor et al., 2015). Nine studies were allocated a category of adequately addressed as although the population was likely represented, minor

concerns existed due to recruitment taking place from agencies supporting disadvantaged or abused women, some community but mostly shelter or women who had previously but were not currently living in a shelter (Boeckel et al., 2017; Georgsson et al., 2011; Graham-Bermann & Levendosky, 1998; Kilpatrick & Williams, 1997; McCloskey & Walker, 2000; McDonald et al., 2016; Mertin & Mohr, 2002; Rossman, 2000; Saltzman et al., 2005). Three studies were allocated a category of poorly addressed due to participants being recruited solely from shelter samples (Jarvis et al., 2005; Lehmann, 1997; Lehmann & Elliston, 2001).

Quality Criteria 3 - Satisfactory Participation and Attrition Rates

Four studies met criteria for well covered as either participation and attrition rates were satisfactory or although the number of participants who were approached or declined was unclear, sample size was large and likely representative of the population of interest (Graham-Bermann et al., 2006; McCloskey & Walker, 2000; McDonald et al., 2016; Rossman, 2000). Six studies were allocated a category of adequately addressed, as either the number of participants who declined or withdrew was low or where this information was not provided study numbers were reasonable and bias was likely minor (Georgsson et al., 2011; Graham-Bermann & Levendosky, 1998; Jarvis et al., 2005; Lehmann, 1997; Lehmann & Elliston, 2001; Mertin & Mohr, 2002). Four studies were allocated a category of poorly addressed due to no information being available on participation rates (number approached, declined, withdrew) or if this information had been provided low rates of the population under study had participated, which was thought to have affected the representativeness of the population of interest and introduced bias (Boeckel et al., 2017; Kilpatrick & Williams, 1997; Saltzman et al., 2005; Taylor et al., 2015).

Quality Criteria 4 - Participant Characteristics and Sample Representativeness

All studies met criteria for adequately addressed, indicating that they represented the population of interest to some degree. Gender was well represented across studies. Adolescents were not represented in the studies by Kilpatrick and Williams (1997), Graham-Bermann and Levendosky (1998), McCloskey and Walker (2000), Rossman (2000), Jarvis et al. (2005), Saltzman et al. (2005), Graham-Bermann et al. (2006), McDonald et al. (2016), and Boeckel et al. (2017) or mean age, not age range was provided in Lehmann and Elliston (2001). No ethnicity was noted in Kilpatrick and Williams (1997), Lehmann (1997), McCloskey and Walker (2000), Mertin and Mohr (2002), Jarvis et al. (2005), Georgsson et al. (2011), Tailor et al. (2015) and Boeckel et al. (2017).

Quality Criteria 5 - Reliability and Validity of the Measure of Exposure to Domestic Abuse

Five studies met criteria for well covered, indicating that the measure of DA had robust or reasonable validity for this population and the reporter was the child's mother who had been the victim of DA, which increased confidence in the accuracy of data (Boeckel et al., 2017; Graham-Bermann & Levendosky, 1998; Graham-Bermann et al., 2006; Jarvis et al., 2005; Mertin & Mohr, 2002). Six studies met criteria for adequately addressed indicating that reliability or validity was compromised by only measuring physical DA or only using items of the scale (Kilpatrick & Williams, 1997; McCloskey & Walker, 2000; McDonald et al., 2016; Rossman, 2000; Saltzman et al., 2005; Tailor et al., 2015). Three studies were allocated a category of poorly addressed as the scale had no known reliability or validity in this population (Georgsson et al., 2011; Lehmann, 1997; Lehmann & Elliston, 2001). Across 13

studies the child's mother reported on the DA they had experienced, children were directly asked about their experiences in one study (McDonald et al., 2016). The length of abuse measured varied with some studies measuring lifetime exposure, some past year exposure and some did not declare time period.

Quality Criteria 6 - Reliability and Validity of the Measure of Child and Adolescent Trauma Symptoms/ PTSD Diagnosis

Nine studies met criteria for well covered, indicating that the trauma measure had robust or reasonable reliability and validity for this population and reporting was sought either directly from the child or an adult well known to the child to improve accuracy of data (Georgsson et al., 2011; Graham-Bermann et al., 2006; Jarvis et al., 2005; Kilpatrick & Williams, 1997; McDonald et al., 2016; Mertin & Mohr, 2002; Rossman, 2000; Saltzman et al., 2005; Taylor et al., 2015). Three studies were allocated a category of adequately addressed indicating that either adapted questionnaires had been used, only parts of questionnaires had been used or symptoms were based solely on DSM criteria which has been questioned in this population (Boeckel et al., 2017; Graham-Bermann & Levendosky, 1998; McCloskey & Walker, 2000). Two studies were allocated a category of poorly addressed as the scale had no known reliability or validity in this population (Lehmann, 1997; Lehmann & Elliston, 2001). In seven studies the child reported on their own symptoms and in the remaining eight studies the child's mother reported on their child's symptoms.

Quality Criteria 7 – Power

Six studies met criteria for well covered, indicating sufficient power had been achieved based on the study author's report or a calculation by the current author when this information was not provided (Graham-Bermann & Levendosky, 1998; Graham-

Bermann et al., 2006; McCloskey & Walker, 2000; McDonald et al., 2016; Mertin & Mohr, 2002; Rossman, 2000). Four studies were allocated a category of adequately addressed indicating that although the sample size was small and power was not achieved, this was not thought to have introduced significant error (Boeckel et al., 2017; Georgsson et al., 2011; Kilpatrick & Williams, 1997; Tailor et al., 2015). Four studies were allocated a category of poorly addressed, indicating that power was not achieved and error was likely introduced (Lehmann, 1997; Lehmann & Elliston, 2001; Jarvis et al., 2005; Saltzman et al., 2005).

Quality Criteria 8 - Statistical Analysis

All fourteen studies met criteria for well covered indicating that the statistical analyses used were appropriate in order to answer the research question and study aims, data were analysed appropriately and the reviewers had confidence in the findings.

Quality Criteria 9 - Measurement of Confounding Variables

Four studies met criteria for well covered indicating that key confounding variables that may influence the development or presentation of trauma symptoms in children and adolescents exposed to DA had been addressed (Georgsson et al., 2011; Graham-Bermann et al., 2006; Kilpatrick & Williams, 1997; Mertin & Mohr, 2002). Seven studies met criteria for adequately addressed indicating that while some confounding variables had been addressed, important ones were missing which may have influenced results to some degree (Graham-Bermann & Levendosky, 1998; Jarvis et al., 2005; Lehmann, 1997; McDonald et al., 2016; Rossman, 2000; Saltzman et al., 2005; Tailor et al., 2015). Three studies were allocated a category of poorly addressed indicating that limited or no confounding variables had been addressed which had likely introduced significant bias in the study findings (Boeckel et al., 2017;

Lehmann & Elliston, 2001; McCloskey & Walker, 2000).

Quality Criteria 10 - Degree of Bias Introduced from Study Limitations

Two studies were allocated a category of well covered indicating that conclusions were reported while taking into account the limitations of the research and the limitations identified throughout this systematic review were not thought to have introduced bias or affected results (Graham-Bermann et al., 2006; Mertin & Mohr, 2002). Ten studies were allocated a category of adequately addressed indicating that study limitations were discussed to some extent and the limits identified throughout this systematic review were thought to have introduced minor bias not thought to significantly affect results (Boeckel et al., 2017; Georgsson et al., 2011; Graham-Bermann & Levendosky, 1998; Jarvis et al., 2005; Kilpatrick & Williams, 1997; McCloskey & Walker, 2000; McDonald et al., 2016; Rossman, 2000; Saltzman et al., 2005; Tailor et al., 2015). Two studies were allocated a category of poorly addressed indicating that there were a number of limitations and bias was thought to have likely affected the results (Lehmann, 1997; Lehmann & Elliston, 2001).

Overall Quality Category

Two studies were allocated an overall category of high quality (Graham-Bermann et al., 2006; Mertin & Mohr, 2002), ten studies were allocated a category of acceptable quality (Boeckel et al., 2017; Georgsson et al., 2011; Graham-Bermann & Levendosky, 1998; Jarvis et al., 2005; Kilpatrick & Williams, 1997; McCloskey & Walker, 2000; McDonald et al., 2016; Rossman, 2000; Saltzman et al., 2005; Tailor et al., 2015) and two studies were allocated a category of low quality (Lehmann, 1997; Lehmann & Elliston, 2001). Quality assessment, category of individual criteria and overall study category are provided in Table 1.3.

Table 1.3 – Quality Assessment of Included Studies

Author/ year	Definition of DA	Recruitment strategy/ representativeness of the population of interest	Satisfactory participation /attrition Rates	Participant characteristics/ representativeness of the sample	Reliability/ validity of domestic abuse measure and reporter	Reliability/ validity of trauma symptom measure and reporter	Power	Statistical Analysis	Measurement of confounding variables	Degree of bias from study limitations	Score, % and category
STUDY 1 Kilpatrick and Williams (1997)	Adequate. Addresse. 1	Adequately Addressed 1	Poorly Addressed 0	Adequately Addressed 1	Adequately Addressed 1	Well Covered 2	Adeq. Addre. 1	Well Covered 2	Well Covered 2	Adequat. Address. 1	12, 60% Acceptable Quality
STUDY 2 Lehmann (1997)	Adequate. Addresse. 1	Poorly Addressed 0	Adequately Addressed 1	Adequately Addressed 1	Poorly Addressed 0	Poorly Address. 0	Poorly Addre. 0	Well Covered 2	Adequately Addressed 1	Poorly Address. 0	6, 30% Low Quality
STUDY 3 Graham-Bermann and Levendosky (1998)	Well Covered 2	Adequately Addressed 1	Adequately Addressed 1	Adequately Addressed 1	Well Covered 2	Adequat. Address. 1	Well Cover. 2	Well Covered 2	Adequately Addressed 1	Adequat. Address. 1	14, 70% Acceptable Quality
STUDY 4 McCloskey and Walker (2000)	Adequate. Addresse. 1	Adequately Addressed 1	Well Covered 2	Adequately Addressed 1	Adequately Addressed 1	Adequat. Address. 1	Well Cover. 2	Well Covered 2	Poorly Addressed 0	Adequat. Address. 1	12, 60% Acceptable Quality
STUDY 5 Rossmann (2000)	Adequate. Addresse. 1	Adequately Addressed 1	Well Covered 2	Adequately Addressed 1	Adequately Addressed 1	Well Covered 2	Well Cover. 2	Well Covered 2	Adequately Addressed 1	Adequat. Address. 1	14, 70% Acceptable Quality
STUDY 6 Lehmann and Elliston (2001)	Well Covered 2	Poorly Addressed 0	Adequately Addressed 1	Adequately Addressed 1	Poorly Addressed 0	Poorly Address. 0	Poorly Addre. 0	Well Covered 2	Poorly Addressed 0	Poorly Address. 0	6, 30% Low Quality
STUDY 7 Mertin and Mohr (2002)	Well Covered 2	Adequately Addressed 1	Adequately Addressed 1	Adequately Addressed 1	Well Covered 2	Well Covered 2	Well Cover. 2	Well Covered 2	Well Covered 2	Well Covered 2	17, 85% High Quality

STUDY 8 Jarvis, Gordon, and Novaco (2005)	Well Covered 2	Poorly Addressed 0	Adequately Addressed 1	Adequately Addressed 1	Well Covered 2	Well Covered 2	Poorly Addre. 0	Well Covered 2	Adequately Addressed 1	Adequat. Address. 1	12, 60% Acceptable Quality
STUDY 9 Saltzman, Holden and Holahan (2005)	Adequate. Adresse. 1	Adequately Addressed 1	Poorly Addressed 0	Adequately Addressed 1	Adequately Addressed 1	Well Covered 2	Poorly Addre. 0	Well Covered 2	Adequately Addressed 1	Adequat. Address. 1	10, 50% Acceptable Quality
STUDY 10 Graham- Bermann, DeVoe, Mattis, Lynch and Thomas (2006)	Well Covered 2	Well Covered 2	Well Covered 2	Adequately Addressed 1	Well Covered 2	Well Covered 2	Well Cover. 2	Well Covered 2	Well Covered 2	Well Covered 2	19, 95% High Quality
STUDY 11 Georgsson, Almqvist and Broberg (2011)	Well Covered 2	Adequately Addressed 1	Adequately Addressed 1	Adequately Addressed 1	Poorly Addressed 0	Well Covered 2	Adeq. Addre. 1	Well Covered 2	Well Covered 2	Adequat. Address. 1	13, 65% Acceptable Quality
STUDY 12 Taylor, Stewart- Tufescu, Piotrowski (2015)	Adequate. Adresse. 1	Well Covered 2	Poorly Addressed 0	Adequate. Adresse. 1	Adequate. Adresse. 1	Well Covered 2	Adeq. Addre. 1	Well Covered 2	Adequate. Adresse. 1	Adequate. Adresse. 1	12, 60% Acceptable Quality
STUDY 13 McDonald, Shin, Corona, Maternick, Graham- Bermann, Ascione, Williams (2016)	Adequate. Adresse. 1	Adequate. Adresse. 1	Well Covered 2	Adequate. Adresse. 1	Adequate. Adresse. 1	Well Covered 2	Well Cover. 2	Well Covered 2	Adequate. Adresse. 1	Adequate. Adresse. 1	14, 70% Acceptable Quality
STUDY 14 Boeckel, Wagner, Grassi- Oliveira (2017)	Well Covered 2	Adequate. Adresse. 1	Poorly Addressed 0	Adequate. Adresse. 1	Well Covered 2	Adequate. Adresse. 1	Adeq. Addre. 1	Well Covered 2	Poorly Addressed 0	Adequate. Adresse. 1	11, 55% Acceptable Quality

3.4. Study Outcomes

Seven studies investigated PTSD diagnosis, six investigated trauma symptoms and one study investigated both PTSD diagnosis and trauma symptoms. Studies which had investigated PTSD diagnosis found variable rates: those rated as high quality reported that 20% (Mertin & Mohr, 2002) and 25% (Graham-Bermann et al., 2006) of children exposed to DA were diagnosed with PTSD. Studies that were rated as acceptable quality reported that 13% (Graham Bermann & Levendosky, 1998), 19% (McCloskey & Walker, 2000), 34% (McDonald et al., 2016), 67% (Georgsson et al., 2011), and 95% (Kilpatrick & Williams, 1997) of children who had been exposed to DA were diagnosed with PTSD. The study rated as low quality reported that DA predicted greater trauma response and 56% of children were diagnosed with PTSD (Lehmann, 1997). These results indicate that more variability in estimates of PTSD prevalence existed in lower quality studies.

The study that assessed trauma symptoms and was rated as high quality reported that the majority of children exposed to DA displayed symptoms of traumatic stress (Graham-Bermann et al., 2006). Studies rated as acceptable quality reported elevated levels of traumatic stress symptoms (Rossman, 2000), a positive association between DA and traumatic stress symptom severity (Boeckel et al., 2017) and Jarvis et al. (2005) reported that 40% of children displayed moderate symptoms, 50% displayed severe symptoms and 10% displayed very severe traumatic stress symptoms. The study rated as low quality reported that DA predicted greater trauma symptoms in children (Lehman & Ellison, 2001).

Three studies rated as acceptable quality compared trauma symptoms in a group of children exposed to DA and a group of control children (Broeckel et al.,

2017; Saltzman et al., 2005; Tailor et al., 2015) and all reported significantly higher trauma symptoms in the children exposed to DA when compared to children who had not been exposed to DA.

4. Discussion

4.1 Summary of Results

This review systematically searched and evaluated the quality of studies investigating trauma symptoms in children and adolescents exposed to DA. All included studies reported a relationship between exposure to DA and PTSD diagnosis or trauma symptoms in children and adolescents aged five to eighteen years. Variable rates of PTSD diagnosis were reported in addition to elevated trauma symptoms that ranged from moderate to very severe. The quality of studies were rated against criteria assessing; accuracy of DA definition according to the evidence base, a representative sample, adequate rate of participation and attrition, reliable and valid outcome measures, adequate power, appropriate statistical analysis and measurement of confounding variables. Studies tended to score higher on criteria that assessed accurate definition of DA, reliability and validity of the trauma measure and statistical analysis. Studies could be improved on the reliability and validity of the DA measure, satisfactory participation and attrition rates, representativeness of participant characteristics, power, the measurement and analysis of confounding variables and overall study bias. The category where studies scored lowest was representativeness of the sample in terms of the recruitment strategy. Two studies were rated as high quality, ten as acceptable quality and two as low quality. Regardless of quality all studies reported a relationship between exposure to DA and PTSD diagnosis or trauma symptoms. Lower quality studies reported more variability in estimates of PTSD

prevalence compared to high quality studies which reported that 20-25% of children and adolescents exposed to DA meet criteria for PTSD diagnosis.

4.2 Summary of Included Studies

Methodology and Participants

The included studies were necessarily non-experimental, cross-sectional designs which are at risk of measurement error, historical bias from retrospective approaches and limited ability to draw causal conclusions (Hardt & Rutter, 2004). Although studies had recruited participants from a variety of settings, approximately half of the children were recruited from shelters and over a third from agencies supporting victims of DA. Studies recruiting from shelters may not represent the experiences of all children exposed to DA as only a small percentage of DA victims access shelters and those who do have often experienced severe violence (Jones, Hughes, & Unterstaller, 2001; Knutson, Lawrence, Taber, Bank, & DeGarmo, 2009; MacDonell, 2012; Saunders, 1994). Women who are able to leave and seek help and protection from a shelter may indicate increased resilience (Waldman-Levi, Bundy, & Katz, 2015). In addition to witnessing DA, children living in shelters may also experience leaving their home, possessions, friends, pets and school, which may also be traumatic. Recruiting DA victims accessing services may be problematic because not all victims of DA access services (Barnish, 2004). The service intervention or treatment children received were not considered and may have influenced study results. Recruiting DA victims with police contact is also problematic, as Mirrlees-Black (1999) found only 36% of women who experience chronic victimisation report police involvement. Although the Kitzmann et al. (2003) and Evans et al. (2008) meta-analyses reported no difference in strength of association between exposure to DA and child outcomes

across shelter, community, at risk (for example; poverty, community violence), school and clinical populations this finding was related to internalising and externalising symptoms and needs to be investigated for trauma symptoms. The lack of variety in recruitment settings may have influenced trauma outcomes and needs to be considered when interpreting results.

Across studies, 1692 child participants were included. Where reported, 1100 were children under the age of 13 years and only 250 were adolescents. Child age was not significantly related to child PTSD diagnosis or symptoms in the Jarvis et al. (2005) and Graham-Bermann et al. (2006) studies although Mertin and Mohr (2002) reported that children who met criteria for PTSD were younger. Findings are limited due to the small number of adolescents who participated across studies. Explanations for why younger children may show more adverse effects include younger children being more dependent and emotionally involved with parents, less able to leave the violent situation, reduced understanding of the situation and less developed coping resources (Graham-Berman & Levendosky, 1998; Levendosky, Huth-Bocks, Semel, & Shapiro, 2002).

Child gender was not significantly related to PTSD diagnosis or symptoms in the Kilpatrick and Williams (1997), Graham-Bermann and Levendosky (1998), Jarvis et al. (2005) and Graham-Bermann et al. (2006) studies. Although two studies reported that income was predictive of child PTSD (Graham-Bermann et al., 2006; McDonald et al., 2016), across most studies families were living with low income which complicates investigations due to the additional stress and impact that living in poverty has on mental health (Holt, Buckley, & Whelan, 2008; Sutherland, Sullivan, & Bybee, 2001). Overall, ethnicity was rarely reported across studies, when it was ethnicity

predicted PTSD; 33% Caucasian children and 17% ethnic minority children met criteria for PTSD, which was a significant difference (Graham-Bermann et al., 2006). The best predictors of PTSD for Caucasian children were maternal PTSD and maternal self-esteem and for ethnic minority children were the amount of violence, maternal self-esteem and low income (Graham-Bermann et al., 2006). McDonald et al. (2016) reported Latino children were less likely to experience PTSD compared to Caucasian, African American and Asian children. Due to limitations, results of included studies may not be generalisable to adolescents, children of different ethnicity and children living in families with higher income.

PTSD Diagnosis and Trauma Symptoms

Eight studies investigated PTSD using DSM-IV (APA, 1994) diagnostic criteria. The appropriateness of using adult based DSM criteria for diagnosing PTSD in children has been questioned given difficulties assessing the subjective characteristics of intense fear and helplessness and the difficulty children may have identifying and describing emotions (Scheeringa, Wright, Hunt, & Zeanah, 2006; Stover & Berkowitz, 2005). Furthermore, because children show less emotional numbing and difficulty reporting avoidance, meeting criteria for avoidance is difficult (Dyregrov & Yule, 2006), which may have resulted in underestimated PTSD prevalence across studies. This is evidenced as studies that assessed trauma symptoms instead of PTSD diagnosis reported higher numbers of children experiencing difficulty. A number of developmentally unique trauma symptoms have been identified, including repetitive play, re-enacting the trauma during play, temper tantrums, exaggerated startle response, separation anxiety, anxious attachment, enuresis, regressed development, sleep disorders, nightmares, physical symptoms such as pain, emotional withdrawal,

development of new fears, difficulties with attention and concentration, social withdrawal and risk taking behaviours (Bedi & Goddard, 2007; Graham-Bermann et al., 2008; Levendosky et al., 2002; Scheeringa, Zeanah, Myers, & Putnam, 2003; van der Kolk, Roth, Pelcovitz, Sunday, & Spinazzola, 2005). A study of preschool children exposed to DA reported 17% prevalence of PTSD using DSM IV (APA, 1994) criteria although when using developmentally sensitive criteria, 51% of the same sample met criteria for PTSD (Graham-Bermann, Castor, Miller, & Howell, 2012). Due to the difficulties meeting DSM criteria and the identification of developmentally unique trauma symptoms several authors have argued for the development of specific child diagnostic criteria (Cook et al., 2005; Dyregrov & Yule, 2006; van der Kolk et al., 2005).

Moderate PTSD severity was predicted by the number of children in the family and high PTSD severity was predicted by the number of children in the family and income (McDonald et al., 2016). Child PTSD did not vary by maternal factors including education, marital status and maternal PTSD by Georgsson et al. (2011), although Graham-Bermann et al. (2006) reported that maternal PTSD did predict child PTSD in Caucasian children. Negative maternal behaviour towards a sibling was found to be strong predictor of PTSD in younger children and a modest predictor of PTSD in older children in the Tailor et al. (2015) study. Graham-Bermann et al. (2006) reported that child PTSD was predicted by mother's own childhood maltreatment.

Domestic Abuse

With eleven of the fifteen studies using the Conflict Tactics Scale (CTS) (Straus, 1979, 1996), to assess exposure to DA, this was the most commonly used measure. Nine of

the eleven studies used the original CTS (Straus, 1979), which has been criticised for focusing on physical abuse. DA consists of various types of abuse (emotional, sexual) which may be more common within some relationships. Only focusing on the experience of physical violence may have influenced estimates of DA and biased trauma symptom conclusions. Some studies measured abuse over the past year and others lifetime exposure. Few studies reported on the time since abuse ended or whether women continued to experience abuse after separation. Recall bias may be present in studies that assess DA over long periods of time while assessment within a short time period may not give the victim time to process and identify their experiences as abuse (Trevillion, Oram, Feder, & Howard, 2012). Limiting participation to children who have experienced abuse in the last twelve months may miss children who are more chronically affected and influence estimates of trauma outcomes. Longer duration of DA was found to predict child PTSD and traumatic stress symptoms (Jarvis et al., 2005; Mertin & Mohr, 2002) as well as more frequent abuse (Graham-Bermann et al., 2006; Jarvis et al., 2005; Mertin & Mohr, 2002). A longitudinal study of preschool children reported that PTSD was related to the accumulated amount of witnessed violence over time (Levendosky, Bogat, & Martinez- Torteya, 2013). Children's intervention in abuse was also related to child PTSD symptoms (Jarvis et al., 2005).

Child physical maltreatment in addition to witnessing DA resulted in higher rates of PTSD diagnosis in the McCloskey and Walker (2000) study although Graham-Bermann and Levendosky (1998) and Jarvis et al. (2005) found no significant difference in PTSD diagnosis in children who had also been maltreated. No studies investigated whether other child maltreatment types such as sexual and emotional

abuse or neglect influenced trauma symptoms. Assessing these factors is important as 30-60% of DA perpetrators have been found to also abuse children living in the home. Children exposed to DA are fifteen times more likely to be maltreated (Osofsky, 2003) and DA was found in 63% of child maltreatment serious case reviews in 2009-2011 (Brandon et al., 2012) In some cases the physical injuries may result from children trying to be close to parents during attacks, trying to help victims during attacks or trying to intervene to stop the violence (Fantuzzo et al., 1997). Although investigated less often, studies of child protection records have indicated that children forced to live with DA are also at risk of sexual abuse by the perpetrator (Brown, Cohen, Johnson, & Salzinger, 1998; Hester & Pearson, 1998). Goddard and Hiller (1993) examined cases of child sexual abuse and found that DA co-existed in 40% of cases. McCloskey et al. (1995) and Kellog and Menard (2003) also found raised incidence of sexual abuse in children exposed to DA compared to children not exposed.

4.3 Future Research

Due to the theoretical background and consistency of findings across studies, a relationship between exposure to DA and development of child trauma symptoms was supported. Only one longitudinal study was identified which investigated outcomes in young children and reported DA was related to trauma symptoms over time (Levendosky et al., 2013). Further longitudinal designs using a prospective approach and assessing children over a period of time are required to allow identification of causal relationships, reduce risk of bias and potential for incorrect findings (Hardt & Rutter, 2004). Future studies should aim to recruit participants from community samples to include different experiences of abuse and represent a wider population of children and adolescents exposed to DA. In particular, recruiting larger numbers

of adolescents, children with varied socioeconomic status and ethnicity would enhance knowledge on the development of trauma symptoms. Research studies should not only assess physical DA but all types of abuse known to affect victims, as specific types of abuse may be more frequent in some relationships which may impact on outcomes. Conflicting conclusions regarding the additional impact of child maltreatment on the development of trauma symptoms in children and adolescents exposed to DA exist and should be investigated further to identify those at risk. It may be that children and adolescents who are maltreated in addition to witnessing DA develop higher rates of trauma symptoms; alternatively, a ceiling effect may exist where children who live with DA are so traumatised that additional trauma does not influence outcomes. Although some maternal factors were investigated, the evidence is limited and further study is required. Factors relating to the child's father may also be important in the development of child trauma symptoms. Whether the perpetrator of abuse is a biological or step parent and whether the child has continued contact with the perpetrator may affect outcomes and be an important area of study.

Assessing trauma symptoms with developmentally appropriate criteria may identify higher numbers of symptomatic children and change prevalence estimates. A number of children who are exposed to DA do not meet criteria for PTSD which may be related to issues with diagnostic criteria or alternatively a number of children may remain resilient. Further research is required to expand the knowledge base and identify risk and protective factors that influence the development of trauma symptoms in children and adolescents exposed to DA to inform prevention and intervention services. Although some variables have been investigated, conflicted results have been reported and further research is required.

It is recognised that all included studies investigating trauma symptoms in children exposed to DA were based on male-perpetrated DA. Although men are now being recognised as experiencing DA at higher rates than originally thought, Ridley and Feldman (2003) and Mirrlees-Black (1999) found that experiences of male and female victims of DA differ. The violence perpetrated by women is usually less chronic and severe (Black et al., 2011), although some men are seriously affected (Humphreys & Thiara, 2003; Kimmel, 2002). Some authors have found that in general women's use of violence is defensive in nature (Hester, 2009). As the literature base on female-perpetrated DA is developing, future research should examine trauma symptoms in children following DA perpetrated by their mother.

Studies investigating trauma symptoms in children under the age of five years were excluded due to difficulties conceptualising and assessing trauma symptoms and PTSD diagnosis in this age group (Scheeringa et al., 1995). However, it is recognised that this is an important area to investigate and a separate systematic review investigating trauma symptoms in children exposed to DA under the age of five years would increase the knowledge base.

4.4 Clinical Implications

It is clear both theoretically and from the existing literature that children and adolescents who are exposed to DA are at risk of developing trauma symptoms. When working with children who have been exposed to DA it is important to assess trauma symptoms in order to identify those who are affected to ensure they receive the most appropriate evidence based trauma intervention. Children who do not meet PTSD diagnostic criteria or score severely on questionnaires may still experience trauma symptoms and distress that impact on their daily functioning (Margolin & Vickerman,

2007), highlighting the importance of also assessing the impact of symptoms.

4.5 Review Strengths and Limitations

The strengths and limitations of this review should be taken into consideration when interpreting results. Strengths include the prior development of a thorough systematic review protocol, data extraction tool and quality criteria based on the CRD (2009) and SIGN (2015) guidelines. The inclusive search strategy following PRISMA statement guidelines was another strength (Moher et al., 2009).

A search of unpublished or ‘grey’ literature such as reports, theses, conference proceedings, newspapers, websites, factsheets, policy documents and unpublished research (Godin, Stapleton, Kirkpatrick, Hanning, & Leatherdale, 2015), was not conducted. Due to vast amounts of information, grey literature searches are less rigorous and systematic and can be extensive and time consuming (Godin et al., 2015). As limited resources were available, a decision was made to limit the database search to research published in peer reviewed journals to in an attempt to increase the quality of research included in this review. As a result, potentially relevant work may have been omitted and publication bias may exist as only including published studies may overestimate the impact of DA on child trauma outcomes (Mahood, Eerd, & Irvin, 2014). Although no unpublished research was identified from experts in the field, a subsequent investigation of unpublished literature would enhance knowledge by identifying and reducing any bias. A further limitation was that only studies published in English language were considered for inclusion due to limited resources available for translation. However, as no studies were excluded due to language, bias is not thought to exist. Although, as most of the studies were conducted in the USA and others in South America, Canada, Australia and Europe the ability to generalise

findings to other countries and cultures is limited. For example, no studies were conducted across Africa or Asia so it is unknown whether results represent families living here. In conclusion, a consistent relationship between exposure to DA and trauma symptoms or PTSD diagnosis was reported across studies, highlighting the importance of appropriate trauma symptom assessment and evidence based trauma intervention in children and adolescents exposed to domestic abuse. Future research should investigate risk and resilience factors associated with this relationship to inform prevention and service provision.

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Periodicals with Three to Seven Authors

Georgesen, J. C., Harris, M. J., Milich, R., & Young, J. (1999). "Just teasing...": Personality effects on perceptions and life narratives of childhood teasing. *Personality and Social Psychology Bulletin*, 25(10), 1254-1267.

• Periodical with More than Seven Authors (cite first six authors, three ellipsis points, and final author. If seven authors, list all seven).

Kaukiainen, A., Bjorkqvist, K., Lagerspetz, K., Osterman, K., Salmivalli, D., Rothberg, S., ... Jones, K. (1999). The relationships between social intelligence, empathy, and three types of aggression. *Aggressive Behavior*, 25(2), 81- 89.

Book - Elements needed: Book authors or editors, date of publication, book title, city and state in which publisher is located, and name of publishing company.

Elkind, D. (1978). *The child's reality: Three developmental themes*. Hoboken, NJ: Lawrence Erlbaum Associates. Contribution to a Book – Elements needed: Author's surname and initials of first and middle name (if given), date of publication. Title of article or chapter. "In" book author or editors "(Eds.)", book title ("pp." page numbers), city and state in which publisher is located, and name of publishing company.

Duckworth, J. C., & Levitt, E. E. (1994). Minnesota Multiphasic Personality Inventory-2. In D. J. Keyser & R. C. Sweetland (Eds.), *Test critiques: Vol. 10* (pp. 424- 428). Austin, TX: Pro-Ed.

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The *Journal of Family Violence* (JOFV) is a peer-reviewed publication committed to the dissemination of rigorous research on preventing, ending, and ameliorating all forms of family violence.

JOFV welcomes scholarly articles related to the broad categories of child abuse and maltreatment, domestic and partner violence, and elder abuse. Within these categories, JOFV emphasizes research on physical violence, psychological violence, sexual violence, and homicides that occur in families. Studies on families in all their various forms and diversities are welcome.

JOFV publishes studies using quantitative, qualitative, and/or mixed methods involving the collection of primary data. Rigorous systematic reviews, meta-analyses, and theoretical analyses are also welcome. To help advance scientific understandings of family violence, JOFV is especially interested in research using transdisciplinary perspectives and innovative research methods. Because family violence is a global problem requiring solutions from diverse disciplinary perspectives, JOFV strongly encourages submissions from scholars worldwide from all disciplines and backgrounds.

Related subjects » Medicine - Psychology - Psychology & Law - Psychotherapy &

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Appendix 1.2

Systematic Review Protocol

SYSTEMATIC REVIEW PROTOCOL

Will be prepared in accordance with the *Journal of Family Violence*.

INTRODUCTION:

BACKGROUND:

A World Health Organisation (WHO) study in 2006 found that domestic abuse (DA) is widespread and affects millions of women annually (Garcia-Moreno, Jansen, Ellsberg, Heise & Watts, 2006). The Home Office and Centres for Disease Control and Prevention (CDC) estimate that one in four women and one in six men are exposed to DA in their lifetime (Home Office, 2005, 2006; Black et al., 2011). Police officers attending incidents of DA in Scotland during the year 2015-2016 found that where gender was recorded, 79% of victims were women and 18% were men (Scottish Government, 2016). The National Institute for Health and Clinical Excellence (NICE) Guidelines for Domestic Violence and Abuse (2016) note that prevalence estimates are likely to be an underestimates due to variations in definitions, measurement and sampling. In addition, DA is a chronically under-reported crime (MacDonell, 2012; Tolan, Gorman-Smith, & Henry, 2006).

DA can result in physical injuries which can lead to permanent disability or death; two women are murdered by a current or ex-partner every week in Britain. Psychological problems including depression, anxiety, eating disorders, post-traumatic stress, substance abuse, somatic complaints, sleep disorders, self-harm and suicide have been found in victims of DA (Home Office, 2005, 2006). Oram, Trevillion, Feder, & Howard (2013) found that 25-56% of women admitted to psychiatric in-patient wards patients report DA in their lifetime.

Fantuzzo, Boruch, Beriama, & Atkins (1997) reported on a five city American study where data were gathered from police officers attending DA incidents. Children were found to be disproportionately represented in homes where DA was present and children under five years of age were more likely to be exposed to multiple incidents of DA. Mirrlees-Black (1999) in a British Crime Survey found that half of British women who reported DA confirmed they were living with children. 24.8% of 18 to 24 years olds report that they had experienced DA in their childhood (Meltzer, Doos, Vostanis, Ford, & Goodman, 2009). Radford et al. (2011) found that 3% of children and adolescents under seventeen years had experienced DA in the past twelve months.

Holden (2003) described the variable nature of children's exposure to DA. Exposure can range from intervening or being caught up in the incident, directly observing the incident, hearing the incident, observing the effects of the incident including broken objects, physical injuries and psychological outcomes in those involved or overhearing conversations about the incident. DA is thought to be particularly problematic to children's development because it typically involves people known to the child. The relationship between the child and both the perpetrator and victim of abuse can be affected (Humphreys, Mullender, Thiara, & Skamballis, 2006). From January 2005, section 120 of The Adoption and Children Act (Home Office, 2002) includes in the legal definition of harming children, 'seeing or hearing the ill treatment of others'. In addition to the harm of witnessing DA, a clear link has been established between the presence of DA and child abuse (Edleson, 1999a). DA was found in 63% of child maltreatment serious case reviews in 2009-2011 (Brandon et al., 2012). In a review of 321 studies examining the existence of DA and child maltreatment, coexistence rates between 30% and 60% were found in the majority of studies. Appel and Holden (1998) reviewed 31 studies examining coexistence of DA and child physical abuse. Figures ranged from 6% to 100% with an average rate of coexistence of 40%. Studies of child protection records have also indicated that children forced to live with DA are at risk of sexual abuse by the perpetrator (Hester & Pearson 1998; Brown, Cohen, Johnson, & Salzinger, 1998). Goddard and Hiller (1993) examined cases of child sexual abuse and found that DA co-existed in 40% of cases. The co-occurrence of being forced to live with DA and child abuse complicates investigations on outcomes of living with DA or living with child abuse as both may co-exist.

The effects on children of being forced to live with DA can begin in pregnancy. DA during pregnancy has been associated with injury to foetus, miscarriage, premature birth, low birth weight and maternal use of substances including alcohol, nicotine and drugs (Huth-Bocks, Levendosky, Theran, & Bogat, 2004). Children less than three years of age who are exposed to DA are more likely to have an insecure attachment style (Zeanah, Danis, Hirschberg, Benoit, & Heller, 1999). The experience of DA may affect the child's trust that the attachment figure will provide a source of protection and safety (Groves, Lieberman, Osofsky, & Fenichel, 2000). Infants and preschool children forced to live with DA may fail to thrive, have difficulties eating, sleeping, experience developmental delay, behaviour problems, social difficulties, enuresis, hair loss, anxiety, fearfulness, sadness, crying and withdrawal (Huth-Bocks, Levendosky, & Semel, 2001, Radford & Sayer, 1999).

School age children have been found to experience depression, sleeplessness, nightmares, aggression, self-harm and negative effects on their school performance (McGee, 2000). Adolescents forced to live with DA can display low self-esteem, substance abuse, antisocial behaviour, depression, difficulties relating to peers, aggression, self-harm and suicidal behaviour (Roberts, Klein, & Fisher, 2003).

The Royal College of Psychiatrists (2004) highlights a number of adverse effects on children from witnessing DA that include anxiety, depression, sleep disorders, physical symptoms, enuresis, school problems, tantrums and aggression, withdrawal, low self-worth, school refusal, eating disorders, substance abuse and self-harm. Meta-analytic studies of children forced to live with DA have documented poor outcomes related to internalising behaviours, externalising behaviours, academic abilities and social skills (Kitzmann, Gaylord, Holt, & Kenny, 2003; Wolfe, Crooks, Lee, McIntyre-Smith, & Jaffe, 2003).

The effects on children forced to live with DA can continue to have a negative impact in adulthood and cycles of violence can be maintained by child witnesses becoming victims or perpetrators of DA in adulthood (Levendosky & Graham-Bermann, 2001).

Children in the youngest age groups appear to exhibit more negative outcomes than older children (Knapp, 1998; Edleson, 1999b), although this finding is not universal (McFarlane et al., 2003). Explanations for why younger children may show more adverse effects include younger children being more dependent and emotionally involved with parents, less able to leave the violent situation, having less understanding of the situation and having less developed and available coping resources (Graham-Berman & Levendosky, 1998; Levendosky, Huth-Bocks, Semel, & Shapiro, 2002). In a meta-analysis of 118 studies (Kitzmann et al., 2003) and a meta-analysis of 41 studies (Wolfe et al., 2003) comparable effect sizes were found for gender differences in outcomes of children forced to live with DA.

Witnessing violence between caregivers and being in close proximity or overhearing violent exchanges has the potential to be highly traumatic (Lang & Smith Stover, 2008). Trauma symptoms are a frequent outcome in adult victims of DA (Campbell & Lewandowski, 1997; Cascardi, O'Leary, & Schlee, 1999). Jarvis, Gorgon, & Novaco, (2005) found that frequency and duration of exposure to DA was related to trauma symptoms. Trauma symptoms in children have been found to persist into later childhood, early adolescence (Bedi & Goddard, 2007; Becker & McCloskey, 2002) and adulthood (Von Steen, 1997) indicating the importance of detection and treatment. Increasing age has been found to be associated with less likelihood of experiencing clinically significant trauma symptoms (Spilsbury et al., 2007).

REVIEW QUESTION:

The research question was established before conducting the review.

Do children and adolescents who are exposed to domestic abuse develop trauma symptoms? A systematic review.

REVIEW OBJECTIVE:

The aim of this review is to appraise the quality of studies that have investigated trauma symptoms in children and adolescents exposed to DA. This will enable further understanding of whether a relationship exists between exposure to DA and the development of trauma symptoms in children and adolescents and the nature of this relationship. Strengths and limitations and suggestions for further research within this evidence base will also be identified.

This review protocol will be based on guidance from the Centre for Reviews and Dissemination (CRD, 2009) and The University of York and the Scottish Intercollegiate Guidance Network (SIGN, 2015).

POPULATION:

The population for this review are children and adolescents ages 5 to 18 years who have been exposed to domestic abuse and have been assessed for trauma symptoms following exposure.

DOMESTIC ABUSE

The definition and terminology of DA varies across and within countries (for example domestic violence/intimate partner abuse). The Home Office (2006) defines DA as "*any incident of threatening behaviour, violence or abuse (psychological, physical, sexual, financial or emotional) between adults who are or have been intimate partners*" (The Home Office, 2006, p.6). Johnson (1995) identified that intimate terrorism and DA describe the same type of partner violence. The importance of identifying type of partner violence has been highlighted to ensure that outcomes reported following exposure to DA accurately reflect this type of violence (Johnson & Leone, 2005).

For the purpose of including evidence in this review DA criteria will be based on The Home Office (2006) and intimate terrorism (Johnson, 1995) definitions. The DA that children have been exposed to will have occurred within the relationship of their caregivers whether biological or step parents.

TRAUMA SYMPTOMS:

Studies which have used questionnaires designed to detect trauma symptoms in children and adolescents will be included. Studies which have used Diagnostic and Statistical Manual of Mental Disorders (DSM) III American Psychiatric Association (APA) 1980, DSM III-R APA (1987), DSM IV APA (1994), DSM IV-TR APA

(2000), DSM V APA (2013) or ICD 10 World Health Organisation (WHO) (1992) diagnostic criteria for diagnosis of PTSD will also be included whether diagnosis was established in clinical interview or questionnaire response.

METHOD:

INCLUSION CRITERIA:

The inclusion and exclusion criteria were established before the review was conducted.

- Studies with a primary research question which aimed to investigate trauma symptoms in children and adolescents exposed to DA that included a measure of exposure to DA and a measure of trauma symptoms or PTSD diagnosis.
- Children or adolescents aged 5-18 years of any gender regardless of ethnicity or nationality.
- All types of relevant quantitative research studies published in peer reviewed journals will be eligible for inclusion for example: observational studies (case controlled studies, case series studies, cohort studies, follow up studies).
- Studies that are available in full text (primary authors will be contacted if necessary to obtain full texts that are not available elsewhere).

EXCLUSION CRITERIA:

- Qualitative studies.
- Non-English language studies (due to lack of resources to enable translation, a list of articles eligible for inclusion but published in non-English language will be included to identify the risk of bias due to language restriction).
- Review articles, previous meta-analysis, book chapters, unpublished dissertations or theses, conference abstracts (although these documents reference lists will be searched as part of the search strategy to identify further articles that may meet the inclusion criteria of this review).

SEARCH STRATEGY:

- Electronic databases (for example; PILOTS, PsycInfo, Medline) will be searched systematically using keyword search terms (for example; domestic abuse, domestic violence, intimate partner violence, partner abuse, marital violence, marital conflict, children, adolescent, trauma symptoms, PTSD, post-traumatic stress disorder, post-traumatic stress disorder symptoms) with no limits on year, publication status or language and assessed for inclusion in the review using the pre-determined criteria.
- The search will be supplemented by searching the reference lists of journal articles to be included in this review using the pre-determined inclusion criteria. Reference lists of relevant review articles and meta- analyses will also be searched using the same approach.
- Authors of studies suitable for inclusion will be contacted to identify any missed literature that may be eligible for inclusion in the review.

Initially the titles of studies will be screened for broad eligibility; did the article measure child or adolescent exposure to domestic abuse in some way and did the article measure trauma symptoms in some way? Articles that clearly do not meet these broad inclusion criteria will be excluded. Where there is any doubt the abstract of the article will be read for further information to determine eligibility. If it is clear from the abstract that the article does not meet inclusion criteria it will be excluded. Again, if there is any doubt from the abstract the full text article will be obtained, read and assessed for eligibility using the pre-determined criteria. This same process will be used when searching from the other sources (reference lists, first authors and the repeat search towards the end of the review).

The search strategy and results of the search will be presented using a flow diagram. Full details of the search strategy will be given in an Appendix. The reasons for why full text articles that were assessed for eligibility and excluded based on inclusion/exclusion criteria will be provided in an Appendix.

DATA EXTRACTION:

A data extraction form has been pre-designed to enable easier extraction of data. The information to be extracted includes;

- General information (title of study, author, citation, country, funding).
- Study information (research question, research design, aims of the study, setting of the study/population, study inclusion and exclusion criteria, power calculation, recruitment procedure)
- Participants (number of participants approached, number of participants who were eligible to

participate, number of participants who declined to participate, number of participants who dropped out of the study, number of participants included in the analysis (sample size), age of participants (mean and range), gender, race, socioeconomic status, any additional participant demographics reported)

- Methods (summary of methods, definition of DA, DA measurement tool and who reported on this, measurement tool for trauma symptoms and who reported on this, confounding variables reported/assessed, statistical analyses used)
- Results (mean, standard deviation, effect size, confidence intervals, p-value, conclusions, clinical implications, risk of bias, generalisability, limitations)

It is planned that the data extraction form will be piloted when reviewing the first three articles eligible for inclusion to determine whether the necessary data is being extracted or whether any additional information is required. The form will be amended as necessary during this pilot phase and then data will be extracted from all eligible articles using the amended data extraction form. The second author will extract data from eligible studies independently from the first author to minimise risk of bias. Any difference of views will be discussed and a third opinion sought if consensus not met.

If required data is missing from the full text article the first author of the study will be contacted and asked to confirm original data as required.

A summary of the included studies with information from the data extraction tool will be provided.

QUALITY ASSESSMENT:

Based on the (Scottish Intercollegiate Guidance Network) SIGN guidelines for systematic reviews (SIGN, 2015) and the CRD quality assessment criteria (CRD, 2009), a quality assessment tool was pre-designed to evaluate the quality of each study that met inclusion criteria for the review.

Quality criteria will assess:

- Definition of domestic abuse
 - Design and methods (inclusion/exclusion criteria, recruitment process)
 - Reliability and validity of the outcome measures
 - Power
 - Participants
 - Statistical analysis
 - Confounding variables
 - Study conclusions and limitations
- Scoring categories for each quality criteria:
- Well covered (2 points)
 - Adequately addressed (1 point)
 - Poorly addressed, not addressed, not reported (0 points)
- Overall assessment of the study:
- High Quality: Majority of quality criteria well covered (>71%). Where criteria have not been well covered the conclusions of the study are thought very unlikely to alter (little or no risk of bias)
 - Acceptable: Some of criteria have been well covered (41-70%) and others are adequately addressed. Those criteria not well covered are thought unlikely to alter the conclusions (some flaws in the study with an associated risk of bias)
 - Low quality: Few or no criteria well covered (<40%) others adequately addressed or poorly addressed, not addressed or not reported. Conclusions of the study are thought likely or very likely to alter (most criteria not met, or significant flaws in key aspects of the study design, high risk of bias)

The first author will classify the individual quality criteria and the overall assessment of each study independently from the second author to reduce the risk or error of bias for both individual quality criteria and overall assessment of the study. Individual differences between raters will be reviewed together and amended on consensus of opinion. Where consensus of opinion cannot be met after review a third rater will be asked to classify the study and amendments will be made as required.

RESULTS:

DATA SYNTHESIS/DISCUSSION:

- A table of individual study findings
- An overall narrative of the quality of the research in the study area will be given (my comments will include the extent to which each study answers the systematic review question and any areas of

uncertainty

- Limitations/strengths of the research included in the review

CONCLUSIONS:

- Overall findings/key messages of the systematic review
- Risk of bias across studies and over the full review
- Limitations/strengths of the systematic review/methodological quality of the review
- Implications for research and findings of the review in context of evidence base/theory/clinical practice

DISSEMINATION:

- Chapter in doctorate thesis portfolio
- Submit for publication
- Presentation at relevant conferences

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Appendix 1.3

Full Electronic Database Search Strategy

Full Search Strategy

The Published International Literature on Traumatic Stress (PILOTS) database was searched using the ProQuest interface on the 10th, 11th and 12th May 2015 from database inception to May week two, 2015. The following keyword search strategy was used with number of papers identified shown below in brackets:

1. Domestic abuse (810)
2. Domestic violence (954)
3. Interpersonal violence (1682)
4. Family violence (2049)
5. Marital violence (201)
6. Interpersonal abuse (1993)
7. Marital abuse (350)
8. Intimate partner violence (755)
9. Child (15065)
10. Children (15064)
11. Adolescent (6142)
12. Adolescents (6142)
13. Youth (1510)
14. Trauma (21292)
15. Trauma symptoms (9883)
16. PTSD (33787)
17. Complex PTSD (1703)
18. Post-traumatic stress disorder (53623)
19. Post-traumatic stress disorder symptoms (20651)
20. 1 OR 2 OR 3 OR 4 OR 5 OR 6 OR 7 OR 8 (4969)
21. 8 OR 9 OR 10 OR 11 OR 12 (16268)
22. 13 OR 14 OR 15 OR 16 OR 17 OR 18 (53623)
23. 20 AND 21 AND 22 (3015)

Limits of peer reviewed papers were applied to this search leaving 2000 papers (from the initial 3015) to be screened for inclusion.

The PILOTS database search was repeated using the ProQuest interface on the 2nd and 3rd April 2017 from the date of the last search (10th May 2015) to the date of the repeat search (3rd April 2015) with the limits of peer reviewed applied. The same keyword search strategy was used with number of papers identified shown below in brackets:

1. Domestic abuse (37)
2. Domestic violence (41)
3. Interpersonal violence (203)
4. Family violence (120)
5. Marital violence (11)
6. Interpersonal abuse (196)
7. Marital abuse (15)
8. Intimate partner violence (83)
9. Child (458)
10. Children (458)
11. Adolescent (237)
12. Adolescents (237)
13. Youth (86)
14. Trauma (1063)
15. Trauma symptoms (671)
16. PTSD (1703)
17. Complex PTSD (87)
18. Post-traumatic stress disorder (440)

19. Post-traumatic stress disorder symptoms (267)
20. 1 OR 2 OR 3 OR 4 OR 5 OR 6 OR 7 OR 8 (239)
21. 9 OR 10 OR 11 OR 12 OR 13 (526)
22. 14 OR 15 OR 16 OR 17 OR 18 OR 19 (1874)
23. 20 AND 21 AND 22 (103)

103 papers were screened for inclusion.

The PsycINFO database was searched using the OVID interface on the 16th and 17th May 2015 from database inception to May week two, 2015. The following keyword search strategy was used with the number of papers identified shown in brackets:

1. Domestic abuse OR domestic violence OR partner abuse OR battered females (15829)
2. Family violence OR interpersonal violence (9602)
3. Marital conflict OR intimate partner violence OR marital violence (7011)
4. Interpersonal abuse (54)
5. Marital abuse (26)
6. Family conflict (6060)
7. Child (207340)
8. Children (317520)
9. Adolescent (109094)
10. Adolescents (114369)
11. Youth (58760)
12. Trauma (74061)
13. Post-traumatic stress disorder OR trauma symptoms (23749)
14. PTSD (28195)
15. Complex PTSD (270)
16. Post-traumatic stress disorder symptoms (193)
17. 1 OR 2 OR 3 OR 4 OR 5 OR 6 (22400)
18. 7 OR 8 OR 9 OR 10 OR 11 (511929)
19. 12 OR 13 OR 14 OR 15 OR 16 (88223)
20. 17 AND 18 AND 19 (936)

No further limits were applied and 936 papers were screened for inclusion.

The Medline database was searched using the OVID interface on the 30th and 31st May 2015 for the period 1966 to May week four, 2015. The following keyword search strategy was used with the number of papers identified shown in brackets:

1. Domestic abuse OR domestic violence OR spouse abuse OR battered women (11614)
2. Interpersonal violence (892)
3. Family violence (5634)
4. Marital violence (2442)
5. Interpersonal abuse (19)
6. Marital abuse (9)
7. Intimate partner violence (3131)
8. Child (1709521)
9. Children (1621488)
10. Adolescent (1671976)
11. Adolescents (1672075)
12. Youth (1670184)
13. Trauma (177432)
14. Trauma symptoms (348)
15. PTSD (24113)
16. Complex PTSD (82)
17. Post-traumatic stress disorder (24020)

18. Post-traumatic stress disorder symptoms (131)
19. 1 OR 2 OR 3 OR 4 OR 5 OR 6 OR 7 (13027)
20. 8 OR 9 OR 10 OR 11 OR 12 (2704857)
21. 13 OR 14 OR 15 OR 16 OR 17 OR 18 (194446)
22. 19 AND 20 AND 21 (835)

No further limits were applied and 835 papers were screened for inclusion.

The PsycINFO and Medline database searches were repeated using the OVID interface on the 4th and 5th April 2017 from the date of the last search (16th May 2015) to the date of the repeat search (5th April 2015) with the limits of peer reviewed applied. The keyword search strategy was used with number of papers identified shown below in brackets:

1. Domestic abuse (133)
2. Domestic violence (1948)
3. Interpersonal violence (442)
4. Family violence (352)
5. Marital violence (11)
6. Interpersonal abuse (18)
7. Marital abuse (2)
8. Intimate partner violence (2133)
9. Partner violence (2653)
10. Battered females (0)
11. Child (350715)
12. Children (205390)
13. Adolescent (268045)
14. Adolescents (47182)
15. Youth (17195)
16. Trauma (53995)
17. Trauma symptoms (156)
18. PTSD (7480)
19. Complex PTSD (64)
20. Post-traumatic stress disorder (3401)
21. Post-traumatic stress disorder symptoms (99)
22. 1 OR 2 OR 3 OR 4 OR 5 OR 6 OR 7 (4647)
23. 8 OR 9 OR 10 OR 11 OR 12 (501354)
24. 13 OR 14 OR 15 OR 16 OR 17 OR 18 (59232)
25. 19 AND 20 AND 21 (445)

No further limits were applied and 445 papers were screened for inclusion.

The Cochrane Database of Systematic Reviews was searched on 1st June 2015 from database inception to week four, May 2015. The following keyword search strategy was used:

Domestic violence OR domestic abuse OR spouse abuse OR battered women OR interpersonal violence OR family violence OR marital violence OR interpersonal abuse OR marital abuse OR intimate partner violence AND child OR children OR adolescent OR adolescents OR youth AND trauma OR trauma symptoms OR PTSD OR complex PTSD OR post-traumatic stress disorder OR post-traumatic stress disorder symptoms (190)

No further limits were applied and 190 papers were screened for inclusion.

The Cochrane Database search were repeated on the 6th April 2017 from the date of the last search (1st June 2015) to the date of the repeat search (6th April 2015). The same keyword search strategy was used. 178 papers were identified and screened for inclusion.

Appendix 1.4

Review Articles and Meta-Analyses Excluded

The following papers were excluded due to being review articles or meta-analyses. The reference lists of these papers were searched for additional studies which may have been suitable for inclusion in the systematic review.

AUTHOR/TITLE/CITATION	ARTICLE SUMMARY	REASON WHY ARTICLE WAS EXCLUDED
Adams, C.M. (2006). The consequences of witnessing family violence on children and implications for family counsellors. <i>The Family Journal</i> , 14, 334-341. doi:10.1177/1066480706290342.	Reviewed the effects of witnessing violence on children's development.	This is a review article, not an empirical study and does not report new data.
Alisic, E., Krishna, R.N., Groot, A., & Frederick, J.W. (2015). Children's mental health and well-being after parental intimate partner homicide: A systematic review. <i>Clinical Child and Family Psychology Review</i> , 18, 328-345. doi: 10.1007/s10567-015-0193-7.	Reviewed literature on children's mental health and well-being after parental intimate partner homicide.	This is a systematic review article, not an empirical study and does not report new data.
Becker-Blease, K.A., & Freyd, J.J. (2005). Beyond PTSD: An evolving relationship between trauma theory and family violence research. <i>Journal of Interpersonal Violence</i> , 20, 403-411. doi:10.1177/0886260504269485.	Reviewed trauma theory and family violence research.	This is a review article, not an empirical study and does not report new data.
Bedi, G., & Goddard, C. (2007). Intimate partner violence: What are the impacts on children? <i>Australian Psychologist</i> , 42 (1), 66-77. doi: 10.1080/00050060600726296	Reviewed psychological and behavioural problems in children who have been exposed to intimate partner violence.	This is a review article, not an empirical study and does not report new data.
Carpenter, G.L., & Stacks, A.M. (2009). Developmental effects of exposure to intimate partner violence in early childhood: A review of the literature. <i>Child and Youth Services Review</i> , 31 (8), 831-839.	Review of social-emotional development and physiological/ neurological development in early childhood and the impact that DA and trauma have on these domains of development.	This is a review article, not an empirical study and does not report new data.
Chan, Y., & Yeung, J.W. (2009). Children living with violence within the family and its sequel: A meta-analysis from 1995-2006. <i>Aggression and Violent Behaviour</i> , 14, 313-322. doi:10.1016/j.avb.2009.04.001.	Meta-analysis of the impact of DA on children.	This is a meta-analysis and does not report new data.
Clements, C.M., Oxtoby, C., & Ogle, R.L. (2008). Methodological issues in assessing psychological adjustment in child witnesses of intimate partner violence. <i>Trauma, Violence and Abuse</i> , 9 (2), 114-127.	Summarises methodological concerns within research on child witnesses to DA.	This is a review article, not an empirical study and does not report new data.
Cook, A., Spinazzola, J., Ford, J., Lanktree, C., Blaustein, M., Cloitre, M., DeRosa, R., Hubbard, R., Kagan, R., Liataud, J., Mallah, K., Olafson, E., & van der Kolk, B. (2005). Complex trauma in children and adolescents. <i>Psychiatric Annals</i> , 35 (5), 390-398.	Reviewed theory of complex trauma in children and its application to assessment and treatment.	This is a review article, not an empirical study and does not report new data.
Davis, L., & Siegel, L.J. (2000). Posttraumatic stress disorder in children and adolescents: A review and analysis. <i>Clinical Child and Family Psychology Review</i> , 3 (3), 135-154.	Reviewed literature on post-traumatic stress disorder in C and A (prevalence, co-morbidity, risk factors, parental and family factors, gender, age and traumatic stressors that can result in PTSD).	This is a review article, not an empirical study and does not report new data.

Dyregrov, A., & Yule, W. (2006). A review of PTSD in children. <i>Child and Adolescent Mental Health</i> , 11 (4), 176-184. doi:10.1111/j.14753588.2005.00384.x.	Reviewed the literature on PTSD in children.	This is a review article, not an empirical study and does not report new data.
Evans, S.E., Davies, C., & DiLillo, D. (2008). Exposure to domestic violence: A meta-analysis of child and adolescent outcomes. <i>Aggression and Violent Behaviour</i> , 13, 131-140. doi:10.1016/j.avb.2008.02.005.	Meta-analysis examining the relationship between exposure to DA and internalising, externalising and trauma symptoms in children.	This is a meta-analysis and does not report new data.
Finkelstein, J., & Yates, J.K. (2001). Traumatic symptomatology in children who witness marital violence. <i>International Journal of Emergency Mental Health</i> , 3 (2), 107-114.	Reviewed psychological effects on children of witnessing DA.	This is a review article, not an empirical study and does not report new data.
Francis, D.D., & Meaney, M.J. (1999). Maternal care and the development of stress responses. <i>Current Opinion in Neurobiology</i> , 9, 128-134.	Reviewed stress-response in mother-offspring interactions.	This is a review article, not an empirical study and does not report new data.
Harris, W.W., Lieberman, A.F., & Marans, S. (2007). In the best interests of society. <i>Journal of Child Psychology and Psychiatry</i> , 48 (3) 392-411. doi:10.1111/j.14697610.2007.01732.x.	Reviewed evidence and described the impact of exposure to DA on children's immediate and long term development, systems of care and national policy.	This is a review article, not an empirical study and does not report new data.
Holt, S., Buckley, H., & Whelan, S. (2008). The impact of exposure to domestic violence on children and young people: A review of the literature. <i>Child Abuse and Neglect</i> , 32, 797-810. doi: 10.1016/j.chiabu.2008.02.004.	Reviewed the impact of exposure to DA on the health and developmental well-being of children and adolescents.	This is a review article, not an empirical study and does not report new data.
Kitzmann, K.M., Gaylord, N.K., Holt, A.R., & Kenny, E.D. (2003). Child witnesses to domestic violence: A meta-analytic review. <i>Journal of Consulting and Clinical Psychology</i> , 71 (2), 339-352. doi:10.1037/0022-006X.71.2.339.	Meta-analysis examining psychological outcomes of children exposed to DA.	This is a meta-analysis and does not report new data.
Lambert, J.E., Holzer, J., & Hasbun, A. (2014). Association between parents' PTSD severity and children's psychological distress: A meta-analysis. <i>Journal of Traumatic Stress</i> , 27 (1), 9-17.	Examined the overall effect size of the association between parental PTSD and child distress/behaviour problems and compared the magnitude of this association with studies of traumatised parents where both parents and children were traumatised. In addition examined a series of moderators of these relationships.	This is a meta-analysis and does not report new data.
Lehmann, P. (2000). Post-traumatic stress disorder (PTSD) and child witnesses to mother assault: A summary and review. <i>Children and Youth Services Review</i> , 22 (3-4), 275-306.	Reviewed literature on children who witness violent assaults of their mothers and trauma symptoms/ PTSD.	This is a review article, not an empirical study and does not report new data.
MacDonell, K.W. (2012). The combined and independent impact of witnessed intimate partner violence and child maltreatment. <i>Partner Abuse</i> , 3 (3), 358-378.	Reviewed the short and long term impact of witnessing DA and the unique impact of experiencing both DA and	This is a review article, not an empirical study and does not report new data.

	maltreatment compared to witnessing DA alone.	
Margolin, G., & Gordis, E.B. (2000). The effects of family and community violence on children. <i>Annual Review of Psychology</i> , 51, 445-479.	Reviewed children's reactions to three types of violence; child maltreatment, community violence and inter-parental violence.	This is a review article, not an empirical study and does not report new data.
Margolin, G. (2005). Children's exposure to violence. Exploring developmental pathways to diverse outcomes. <i>Journal of Interpersonal Violence</i> , 20 (1), 72-81. doi:10.1177/0886260504268371.	Overview of developmentally sensitive theories and methods for understanding children's risk and resilience to violence exposure.	This is a review article, not an empirical study and does not report new data.
Margolin, G., & Vickerman, K.A. (2007). Post-traumatic stress in children and adolescents exposed to family violence: 1. Overview and Issues. <i>Professional Psychological Research Practice</i> , 38 (6), 613-619. doi:10.1037/0735-7028.38.6.613.	Reviewed evidence and described evolving conceptualisations in relation to trauma and family violence exposure (child physical abuse and domestic abuse), assessment approaches and treatment planning.	This is a review article, not an empirical study and does not report new data.
Osofsky, J.D. (1999). The impact of violence on children. <i>The Future of Children</i> , 9 (3), 33-49.	Overview of the extent of children's exposure to various types of violence and examines what is known about the effects of this exposure in child and adolescent development.	This is a review article, not an empirical study and does not report new data.
Overlien, C. (2010). Children exposed to domestic violence. <i>Journal of Social Work</i> , 10 (1), 80-97. doi:10.1177/1468017309350663.	Examined the literature base on children who have been exposed to DA and describes challenges and knowledge gaps.	This is a review article, not an empirical study and does not report new data.
Pfefferbaum, B. (1997). Posttraumatic stress disorder in children: A review of the past 10 years. <i>Journal of the American Academy of Child and Adolescent Psychiatry</i> , 36 (11) 1503-1511.	Reviewed knowledge on the clinical presentation, assessment and treatment of post-traumatic stress disorder in children.	This is a review article, not an empirical study and does not report new data.
Scheeringa, M.S., & Zeanah, C.H. (2001). A relational perspective on PTSD in early childhood. <i>Journal of Traumatic Stress</i> , 14 (4), 799-815.	Reviewed the clinical and research evidence of the relational context of PTSD in young children.	This is a review article, not an empirical study and does not report new data.
Scheeringa, M.S., Zeanah, C.H., & Cohen, J.A. (2011). PTSD in children and adolescents: Toward an empirically based algorithm. <i>Depression and Anxiety</i> , 28, 770-782. doi:10.1002/da.20736.	Presents a number of options and recommendations to be considered for PTSD in children and adolescents in DSM-V.	This is a review article, not an empirical study and does not report new data.
Silvern, L., & Kaersvang, L. (1989). The traumatised children of violent marriages. <i>Child Welfare LXV</i> 111 (4), 421-436.	Discussed whether traumatisation underlies the difficulties that children who witness DA experience.	This is a review article, not an empirical study and does not report new data.
Sternberg, K.J., Baradaran, L.P., Abbott, C.B., Lamb, M.E., & Guterman, E. (2006). Type of violence, age and gender differences in the effects of family violence on children's behaviour problems: A mega-analysis. <i>Developmental Review</i> , 26, 89-112. doi: 10.1016/j.dr.2005.12.001.	Mega-analysis examining the effect of family violence type, age and gender on children's behaviour problems.	This is a mega-analysis and does not report new data.

Stover, C.S. (2005). Domestic violence research: What have we learned and where do we go from here? <i>Journal of Interpersonal Violence</i> , 20, 448-454. doi:10.1177/0886260505267755.	Review and critique of research examining the impact of DA on children.	This is a review article, not an empirical study and does not report new data.
Sturge-Apple, M.L., Skibo, M.A., & Davies, P.T. (2012). Impact of parental conflict and emotional abuse on children and families. <i>Partner Abuse</i> , 3 (3), 379-400.	Review examining the impact of parental conflict and psychological abuse on children and families.	This is a review article, not an empirical study and does not report new data.
Trickey, D., Siddaway, A.P., Meiser-Stedman, R., Serpell, L., & Field, A.P. (2012). A meta-analysis of risk factors for post-traumatic stress disorder in children and adolescents. <i>Clinical Psychology Review</i> , 32, 122-138. doi:10.1016/j.cpr.2011.12.001.	Examined the population effect sizes of twenty five potential risk factors for PTSD in children and adolescents.	This is a meta-analysis and does not report new data.
Veenama, T.G., & Schroeder-Bruce, K. (2002). The aftermath of violence: Children, disaster and posttraumatic stress disorder. <i>Journal of Pediatric Health Care</i> , 16, 235-244. doi:10.1067/mpH.2002.126869.	Reviewed the development of PTSD in children following repeated abuse, living in violent neighbourhoods, war zones and witnessing violent events.	This is a review article, not an empirical study and does not report new data.
Warner, B.S., & Weist, M.D. (1996). Urban youth as witnesses to violence: Beginning assessment and treatment efforts. <i>Journal of Youth and Adolescence</i> , 25 (3), 361-377.	Reviewed child and adolescent outcomes following violence exposure and factors which may mediate the impact of violence exposure.	This is a review article, not an empirical study and does not report new data.
Wolfe, D.A., Crooks, C.V., Lee, V., McIntyre-Smith, A., & Jaffe, P. (2003). The effects of children's exposure to domestic violence: A meta-analysis and critique. <i>Clinical Child and Family Psychology Review</i> , 6 (3), 171-187.	Meta-analysis examining the effects on children following exposure to DA.	This is a meta-analysis and does not report new data.
Yates, A., & Chinn, F.J. (1996). When children witness domestic violence. <i>Hawaii Medical Journal</i> , 55 (9), 162-163.	Reviewed child and adolescent outcomes following exposure to DA.	This is a review article, not an empirical study and does not report new data.

Appendix 1.5

Full Text Articles Screened Against Inclusion Criteria and Excluded with Reason for Exclusion

The following articles were identified when searching the electronic databases and reference lists but could not be excluded from the title or abstract or the abstract was not available. The full text article was obtained to assess eligibility and excluded against the pre-defined criteria.

AUTHOR/TITLE/CITATION	ARTICLE SUMMARY	REASON WHY ARTICLE WAS EXCLUDED
Adams, Z.W., McCart, M.R., Zajac, K., Danielson, C.K., Sawyer, G.K., Saunders, B.E., & Kilpatrick, D.G. (2013). Psychiatric problems and trauma exposure in non-detained delinquent and non-delinquent adolescents. <i>Journal of Clinical Child and Adolescent Psychology</i> , 42 (3), 323-331. doi:10.1080/15374416.2012.749786.	Examined the prevalence of post- traumatic stress disorder (PTSD), depression and substance use in delinquent and non-delinquent adolescents and whether delinquency status remained a significant correlate of clinical problems when trauma exposure was also considered.	A measure of domestic abuse (DA) was not included. Trauma outcomes were reported following exposure to both DA and community violence in combination (trauma symptoms following exposure to DA were not reported).
Affi, T.O., Enns, M.W., Cox, B.J., Asmundson, G.J.G., Stein, M.B., & Sareen, J. (2008). Population attributable fractions of psychiatric disorders and suicide ideation and attempts associated with adverse childhood experiences. <i>American Journal of Public Health</i> , 98 (5), 946-952. doi:10.2105/ajph.2007.120253.	Examined the proportion of psychiatric disorders and suicidal ideation in the general population that are attributable to childhood physical abuse, sexual abuse and witnessing domestic violence.	Did not include a measure of DA; participants were asked whether they had witnessed any serious physical fights at home (not specifically related to caregivers). The participants were adults not children or adolescents (C or A).
Aitcheson, R.J., Abu-Bader, S.H., Howell, M.K., Khalil, D., & Elbedour, S. (2017). Resilience in Palestinian adolescents living in Gaza. <i>Psychological Trauma: Theory, Research, Practice, and Policy</i> , 9 (1), 36-43.	Examined factors that support adolescent health, prevalence of depression and anxiety and predictors of resilience in a group of adolescents attending secondary school in Gaza.	A measure of exposure to DA was not included. A measure of C and A trauma symptoms was not included (trauma symptoms following exposure to DA were not reported).
Allwood, M.A., Bell, D.J., & Horan, J. (2011). Post trauma numbing of fear, detachment and arousal predict delinquent behaviours in early adolescence. <i>Journal of Clinical Child and Adolescent Psychology</i> , 40 (5), 659-667. doi:10.1080/15374416.2011.597081.	Examined associations between youth's trauma-related emotional numbing across multiple affective domains (e.g. fear, sadness, happiness, and anger), delinquent behaviours and whether the effects of post trauma emotional numbing varied by the occurrence of post trauma arousal symptoms.	Trauma symptoms following exposure to DA were not directly assessed/ reported in this study.
Bernard-Bonnin, A.C., Hebert, M., Daignault, I.V., & Allard-Dansereau, C. (2008). Disclosure of sexual abuse and personal and familial factors as predictors of post-traumatic stress disorder symptoms in school-aged girls. <i>Paediatrics and Child Health</i> , 13 (6), 479-486.	Examined predictive factors of post-traumatic stress disorder symptoms in school-age girls.	A measure of exposure to DA was not included. Disclosure of sexual abuse as a predictor of DA was the main variable assessed and trauma symptoms following exposure to DA were not reported.

Bogat, G.A., DeJonghe, E., Levendosky, A.A., Davidson, W.S., & von Eye, A. (2006). Trauma symptoms among infants exposed to intimate partner violence. <i>Child Abuse and Neglect</i> , 30, 109-125. doi:10.1016/j.chiabu.2005.09.002.	Examined whether number of infant trauma symptoms were related to infant's temperament and mother's mental health and whether severity of violence moderated these relationships.	Children were under the age of five years; the mean age of children in this study was twelve months old.
Briggs-Gowan, M.J., Carter, A.S., Clark, R., Augustyn, M., McCarthy, K.J., & Dord, J.D. (2010). Exposure to potentially traumatic events in early childhood: Differential links to emergent psychopathology. <i>Journal of Child Psychology and Psychiatry</i> , 51 (10), 1132-1140. doi:10.1111/j.14697610.2010.02256.x.	Examined associations between exposure to potentially traumatic events and clinical patterns of symptoms and disorders in preschool children.	A measure of exposure to DA was not included. Participants were asked whether they had, "seen someone hit, push or kick or use a weapon to threaten or hurt a family member" (not specific to caregivers/ DA) (trauma symptoms following exposure to DA were not reported).
Briggs-Gowan, M.J., Pollak, S.D., Grasso, D., Voss, J., Mian, N.D., Zobel, E., McCarthy, K.J., Wakschlag, L.S., & Pine, D.S. (2015). Attention bias and anxiety in young children exposed to family violence. <i>Journal of Child Psychology and Psychiatry</i> , 56 (11), 1194-1201. doi:10.1111/jcpp.12397.	Examined whether attention bias toward threat moderated the relationship between violence exposure and anxiety in young children.	Trauma symptoms in C and A exposed to DA were not reported. The primary research question assessed whether attention bias moderated the relationship between violence exposure (included harsh parenting, physical child abuse, exposure to DA) and anxiety/trauma symptoms. Outcomes were not specific to DA but reported for the combination of violence exposure assessed. Children were aged 3-5 years.
Brockie, T.N., Dana-Sacco, G., Wallen, G.R., Wilcox, H.C., & Campbell, J.C. (2015). The relationship of adverse childhood experiences to PTSD, depression, poly-drug use and suicide attempt in reservation-based native American adolescents and young adults. <i>American Journal of Community Psychology</i> , 55, 411-421. doi:10.1007/s10464-015-9721-3.	Examined the relationship between exposure to the number of adverse childhood experiences (psychological abuse, physical abuse, sexual abuse, neglect, witness to DA), risk behaviours and mental health outcomes among reservation based Native American's.	A measure of DA was not included. DA was assessed using one question ("in your whole life did you ever see your mother get hit, slapped, punched or beaten up") with a yes or no response (not specified for caregivers). Trauma symptoms were reported as a result of the number of adverse experiences and not reported by maltreatment type.
Boeckel, M.G., Viola, T.W., Daruy-Filho, L., Martinez, M., & Grassi Oliveira, R. (2017). Intimate partner violence is associated with increased maternal hair cortisol in mother-child dyads. <i>Comprehensive Psychology</i> , 72 18-24.	Investigated hair cortisol concentration in female victims of DA and their children. Tested whether children exposed to DA would present with higher	This study used the same sample as Boeckel et al., (2017) which was included in the review.

	hair cortisol concentration and trauma symptoms.	
Brosky, B.A., & Lally, S.J. (2004). Prevalence of trauma, PTSD and dissociation in court-referred adolescents. <i>Journal of Interpersonal Violence</i> , 19 (7), 801-814. doi:10.1177/0886260504265620.	Examined the prevalence of trauma, PTSD and dissociative symptoms in adolescents referred for psychological evaluation following juvenile crime.	A measure of exposure to DA was not included. Post-traumatic stress symptoms as a result of exposure to multiple traumas were reported in combination (trauma symptoms as a result of exposure to DA were not reported).
Buckner, J.C., Beardslee, W.R., & Bassuk, E.L. (2004). Exposure to violence and low-income children's mental health: Direct, moderated and mediated relations. <i>American Journal of Orthopsychiatry</i> , 74 (4), 413-423. doi:10.1037/0002-9432.74.4.413.	Examined the associations and potential moderators and mediators between exposure to violence and mental health in "extremely poor children".	A measure of exposure to DA was not included. The measure in this study assessed various violent acts in the home (not specifically related to DA) and in the community. Outcomes were reported in combination for all violence types (trauma symptoms following exposure to DA were not reported).
Burton, D., Foy, D., Bwanausi, C., Johnson, J., & Moore, L. (1994). The relationship between traumatic exposure, family dysfunction and post-traumatic stress symptoms in male juvenile offenders. <i>Journal of Traumatic Stress</i> , 7 (1), 83-93. doi:0894-9867/94/0100-0083507.00/0.	Examined chronic, stressful conditions and acute traumatic events which may place youth at risk for specific types of psychopathology.	A measure of exposure to DA was not included, it was family conflict which was examined in this study. Trauma symptoms following exposure to DA were not measured/ reported in this study.
Catani, C., Jacob, N., Schauer, E., Kohila, M., & Neuner, F. (2008). Family violence, war and natural disasters: A study of the effect of extreme stress on children's mental health in Sri Lanka. <i>BMC Psychiatry</i> , 8 (33), 1-10.	Examined the impact (PTSD, somatic complaints, psychosocial functioning, and school grades) of children's exposure to natural disaster, other traumatic events and other psychosocial risks.	A measure of exposure to DA was not included. Exposure to family violence was assessed by asking children whether they had, "been hit, punched or kicked very hard at home" or "seen a family member being hit, punched or kicked very hard at home" and was not specific to DA/ violence between caregivers. Outcomes were reported in combination for all violence types (trauma symptoms following exposure to DA were not reported).

Catani, C., Schauer, E., Elbert, T., Missmahl, I., Bette, J., & Neuner, F. (2009). War trauma, child labour and family violence: Life adversities and PTSD in a sample of school children in Kabul. <i>Journal of Traumatic Stress</i> , 22 (3), 163-171.	Examined adverse childhood experiences such as war, family violence, child labour and poverty in a sample of children in Afghanistan.	Did not include a specific measure of exposure to DA. Family violence in this study was defined as being exposed to physical, psychological or sexual child abuse as well as witnessing DA which was not specifically related to violence between caregivers. Trauma symptoms were reported for overall violence exposure, not specifically for exposure to DA.
Chemtob, C.M., & Carlson, J.G. (2004). Psychological effects of domestic violence on children and their mothers. <i>International Journal of Stress Management</i> , 11 (3), 209-226. doi:10.1037/1072-5245.11.3.209.	Examined psychological dysfunction in children and mothers who had experienced DA and whether PTSD affects parenting style.	Trauma symptoms were not reported following exposure to DA; mother's trauma symptoms were analysed to see whether they impacted on trauma symptoms in children.
Cisler, J.M., Begle, A.M., Anstadter, A.B., Resnick, H.S., Danielson, C.K., Saunders, B.E., & Kilpatrick, D.G. (2012). Exposure to interpersonal violence and risk of PTSD, depression, delinquency and binge drinking among adolescents: Data from the NSA-R. <i>Journal of Traumatic Stress</i> , 25 (1), 33-40. doi:10.1002/jts.21672.	Assessed exposure to interpersonal violence and non- interpersonal violence related traumatic events, PTSD symptoms, depressive symptoms, delinquent acts and binge drinking in adolescents over three years.	A measure of exposure to DA was not included; exposure to DA was assessed by asking the adolescent to respond yes or no to the question of whether they had witnessed pushing, shoving, punching, hitting, choking, hitting with an object or threatening with a weapon at home (not specifically related to DA/ violence between caregivers). Interpersonal violence included sexual assault, physical assault, and abuse from a caregiver, witnessed community violence and witnessing DA. Outcomes were reported for overall interpersonal violence exposure, not specific to DA.
Clarke, S.B., Koenen, K.C., Street, A.E., King, L.A., & King, D.W. (2007). Intimate partner psychological aggression and child behaviour problems. <i>Journal of Traumatic Stress</i> , 20 (1), 97-101. doi:10.1002/jts.20193.	Examined the relationship between intimate partner psychological aggression and children's behaviour problems in a community sample of families.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included/ assessed as part of the outcomes.

Cloitre, M., Stolbach, B.C., Herman, J. L., van der Kolk, B., Pynoos, R., Wang, J., & Perkova, E. (2009). A developmental approach to complex PTSD: Childhood and adult cumulative trauma as predictors of symptom complexity. <i>Journal of Traumatic Stress</i> , 22 (5), 399-408. doi:10.1002/jts.20444.	Examined the relationship between accumulated exposure to different types of traumatic events and total number of symptoms assessed in an adult and child clinical sample.	A measure of exposure to DA was not included. DA was not assessed/ reported in the child sample.
Cohodes, E., Hagan, M., Narayan, A., & Lieberman, A. (2016). Matched trauma: The role of parents' and children's shared history of childhood domestic violence exposure in parents' report of children's trauma-related symptomatology. <i>Journal of Trauma and Dissociation</i> , 17 (1), 81-96.	Proposed and tested a matched trauma hypothesis, positing that parents who had and parents who had not witnessed DA as children report their children's trauma symptoms differently following DA.	Children were under the age of 5 years. A measure of exposure to DA was not included, a question was used that asked about, 'family members' not specifically 'caregivers'. Trauma symptoms following exposure to DA were not reported.
Collins, K.S., Koeske, G.F., Russell, E.B., & Michalopoulos, L.M. (2013). Children's attributions of community violence exposure and trauma symptomatology. <i>Journal of Child and Adolescent Trauma</i> , 6, 201-216. doi:10.1080/19361521.2013.811458.	Examined the relationship between violence exposure and trauma symptoms and whether children's attributions of violence mediate this relationship.	A measure of exposure to DA was not included. DA was not assessed; the witnessed violence assessed in this study was community violence not DA.
Copping, V. (1996). Beyond over- and under-control: Behavioural observations of shelter children. <i>Journal of Family Violence</i> , 11 (1), 41-57. doi:0885-7482/96/0300-0041409.50/0.	Longitudinal observation study identifying behaviours in children living in women's shelters and examining these behaviours according to gender, experience of abuse and age.	This study did not include a measure of C and A trauma symptoms/ PTSD diagnosis. This study did not include a measure of DA (mothers reported yes or no to whether children had witnessed DA and yes or no whether or not children had been the direct victim of abuse).
Cortes, A.M., Saltzman, K.M., Weems, C.F., Regnault, H.P., Reiss, A. L., & Carrion, V.G. (2005). Development of anxiety disorders in a traumatized pediatric population: A preliminary longitudinal evaluation. <i>Child Abuse and Neglect</i> , 29, 905-914. doi:10.1016/j.chiabu.2004.12.010.	Examined whether posttraumatic stress disorder (PTSD) symptomatology predicted later development of non-PTSD anxiety disorders in children and adolescents victimised by interpersonal trauma.	The measure was not specific for domestic abuse (DA) as multiple traumatic events were measured including separation and loss, witnessing violence, physical abuse, sexual abuse, physical neglect and psychological abuse. What was meant by witnessing violence was not defined further and outcomes were not reported for individual trauma type but were reported overall for any trauma.
Cogle, J.R., Resnick, H., & Kilpatrick, D.G. (2009). Does prior exposure to interpersonal violence increase risk of PTSD following subsequent exposure? <i>Behaviour Research and Therapy</i> , 47 (12), 1012-1017. doi:10.1016/j.brat.2009.07.014.	Examined the effects of exposure to potentially traumatic events and post-traumatic stress disorder in adolescents.	A measure of exposure to DA was not included. DA was not assessed as a potential traumatic event it was physical abuse, sexual abuse and exposure to

		community violence that was assessed.
Coyne, J.J., Barrett, P.M., & Duffy, A.L. (2000). Threat vigilance in child witnesses of domestic violence: A pilot study utilizing the ambiguous situations paradigm. <i>Journal of Child and Family Violence</i> , 9 (3), 377-385.	Examined whether children exposed to violent spousal conflict were more likely than children not exposed to violence to perceive threat for ambiguous peer and parental situations.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included/ assessed as part of outcomes.
Crimmins, S.M., Cleary, S.D., Brownstein, H.H., Spunt, B.J., & Warley, R.M. (2000). Trauma, drugs and violence among juvenile offenders. <i>Journal of Psychoactive Drugs</i> , 32 (1), 43-54. doi:10.1080/02791072.2000.10400211	Examined relationships between trauma, drug use and violence among adolescents.	A measure of exposure to DA was not included. A measure of C and A trauma symptoms/ PTSD diagnosis was not included.
Cromer, K.D., & Villodas, M.T. (2017). Post-traumatic stress as a pathway to psychopathology among adolescents at high risk for victimization. <i>Child Abuse and Neglect</i> , 67, 182-192.	Examined the mediating role of PTS in the association between cumulative childhood victimisation (direct and indirect or witnessed violence exposure and various forms of psychopathology during the transition to adolescence.	A measure of exposure to DA was not included. Trauma symptoms following exposure to DA were not reported. Trauma symptoms were analysed as a mediator not an outcome variable.
Crusto, C.A., Whitson, M.L., Walling, S.N., Feinn, R., Friedman, S.R., Reynolds, J., Amer, M., & Kaufman, J.S. (2010). Posttraumatic stress among young urban children exposed to family violence and other potentially traumatic events. <i>Journal of Traumatic Stress</i> , 23 (6), 716-724. doi:10.1002/jts.20590.	Examined the relationship between the number of different types of traumatic events experienced by children, parenting stress and children's posttraumatic stress.	A measure of exposure to DA was not included. Type of traumatic event experienced was assessed via a list. Posttraumatic stress symptoms were reported in response to experiencing family violence which included witnessing violence and any type of child maltreatment (physical, emotional, sexual abuse or neglect) (trauma symptoms following exposure to DA were not reported).
Cyr, K., Clement, M., & Chamberland, C. (2013). Lifetime prevalence of multiple victimisations and its impact on children's mental health. <i>Journal of Interpersonal Violence</i> , 29 (4), 616-634. doi:10.1177/0886260513505220.	Examined whether poly victimisation predicted mental health symptoms and whether care givers victimisation contributed to mental health symptoms after considering poly victimisation.	Trauma symptoms were reported for witnessing DA, physical abuse, assault with a weapon, burglary, someone close murdered, witness to murder, exposure to shooting, riots and war collectively (C and A trauma symptoms following exposure to DA were not reported as an individual outcome).
David, C., Steele, R., Forehand, R., & Armistead, L. (1996). The role of family conflict and marital	Examined whether marital conflict is related to child	A measure of exposure to DA was not included. A measure of C and A trauma

conflict in adolescent functioning. <i>Journal of Family Violence</i> , 11 (1), 81-89.	functioning when it occurs in front of children.	symptoms/ PTSD diagnosis was not included. Trauma symptoms following exposure to DA were not assessed/ reported.
Drotar, D., Flannery, D., Day, E., Friedman, S., Creeden, R., Gartland, H., McDavid, L., Tame, C., & McTaggart, M.J. (2003). Identifying and responding to the mental health service needs of children who have experienced violence: A community-based approach. <i>Clinical Child Psychology and Psychiatry</i> , 8 (2), 187-203.	Examined children's exposure to violence, their psychological response to the violence and their participation in a community-based intervention service.	Violence exposure assessed was not specifically related to DA and outcomes were reported for all violence assessed (trauma symptoms following exposure to DA were not reported).
Dubow, E.F., Boxer, P., Rowell Huesman, L., Shikaki, K., Landau, S., Dvir Gvirsman, S., & Ginges, J. (2010). Exposure to conflict and violence across contexts: relations to adjustment among Palestinian children. <i>Journal of Clinical Child and Adolescent Psychology</i> , 39 (1), 103-116. doi:10.1080/15374410903401153.	Examined the relation of exposure to political conflict and violence, violence in the family, community violence and school violence to post traumatic stress symptoms and aggressive behaviour.	Did not include a measure of DA; violence in the family was assessed with a single question, "How often have you seen or heard a violent argument between your adult relatives?" 0=never, 3=many times. Was not specific to DA/violence between caregivers.
Duckworth, M.P., Hale, D.D., Clair, S.D., & Adams, H.E. (2000). Influence of interpersonal violence and community chaos on stress reactions in children. <i>Journal of Interpersonal Violence</i> , 15 (8), 806-826.	Evaluated the separate and additive contributions of direct violence victimisation, witnessed violence and community chaos to children's posttraumatic stress reactions and behaviour problems.	A measure of exposure to DA was not included. DA was not assessed; the witnessed violence assessed in this study was community violence not DA.
Dyson, J.L. (1989). The effect of family violence on children's academic performance and behaviour. <i>Journal of the National Medical Association</i> , 82 (1), 17-22.	Examined the impact of exposure to violence on children.	This study was excluded as it was a case report not quantitative research. A measure of exposure to DA was not included. A measure of C and A trauma symptoms/ PTSD diagnosis was not included.
Ehrensaft, M.K., & Cohen, P. (2012). Contribution of family violence to the intergenerational transmission of externalizing behaviour. <i>Prevention Science</i> , 13, 370-383. doi:10.1007/s11121-011-0223-8	Examined whether intimate violence between partners contributed independently to the intergenerational transmission of antisocial behaviour via parental psychopathology, parenting practices and child self-regulations.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included/ assessed as part of outcomes.

Eiden, R. (1999). Exposure to violence and behaviour problems during early childhood. <i>Journal of Interpersonal Violence</i> , 14 (12), 1299-1313.	Examined potential predictors of behaviour problems (maternal substance abuse, maternal psychosocial functioning, maternal and child experiences of violence and inadequacy of caregiving) among children of mothers who were using cocaine.	Did not include a measure of exposure to DA but exposure to violence was based on community violence. A measure of C and A trauma symptoms/ PTSD diagnosis was not included, trauma symptoms were not assessed.
Elzy, M., Clark, C., Dollard, N., & Hummer, V. (2013). Adolescent girls' use of avoidant and approach coping as moderators between trauma exposure and trauma symptoms. <i>Journal of Family Violence</i> , 28, 763-770. doi:10.1007/s10896-013-9546-5.	Examined whether avoidant and/ or approach coping skills moderated the relationship between childhood trauma exposure and trauma symptoms among adolescent females with a history of complex trauma.	A measure of exposure to DA was not included. Child trauma in this study referred to child physical, emotional, sexual abuse and neglect; DA was not assessed as part of outcomes.
English, D.J., Marshall, D.B., & Stewart, A.J. (2003). Effects of family violence on child behaviour and health during early childhood. <i>Journal of Family Violence</i> , 18 (1), 43-57.	Examined child behaviour and health in children who had been abused/ neglected in families with and without DA.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included/ assessed as part of outcomes.
English, D. J., Newton, R. R., Lewis, T. L., Thompson, R., Kotch, J. B., & Weisbart, C. (2009). At-risk and maltreated children exposed to intimate partner aggression/ violence what the conflict looks like and its relationship to child outcomes. <i>Child Maltreatment</i> , 14 (2), 157-171.	Explored the nature of intimate partner aggression and violence, child maltreatment and child outcomes in at risk and maltreating families.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included or measured as part of child outcomes.
Enlow, M.B., Blood, E., & Egeland, B. (2013). Sociodemographic risk, developmental competence and PTSD symptoms in young children exposed to interpersonal trauma in early life. <i>Journal of Traumatic Stress</i> , 26 (6), 686-694.	Examined the associations among interpersonal trauma exposure, sociodemographic risk, and developmental competence and PTSD symptoms in children.	Interpersonal trauma was defined as exposure to both DA and child maltreatment (physical, emotional, sexual abuse and neglect) and outcomes were reported in combination for all trauma types (trauma symptoms following exposure to DA were not reported). In addition, the participants in this study were pre-schoolers (under the age of 6 years).
Erolin, K.S., Wieling, E., & Aguilar Parra, R.E. (2014). Family violence exposure and associated risk factors for child PTSD in a Mexican sample <i>Child Abuse and Neglect</i> , 38, 1011-1022.	Examined rates of exposure to traumatic events, family and community violence and post-traumatic stress disorder in school-age children and their families in Mexico.	A measure of exposure to DA was not included. Trauma symptoms were reported in response to, "witnessing violence" which included "seeing family members hit, punched, kicked, threatened, killed or injured" and was not specific to caregivers/DA.

<p>Famularo, R., Fenton, T., & Kinscherff, R. (1993). Child maltreatment and the development of post-traumatic stress disorder. <i>American Journal of Diseases of Children</i>, 147, 755-760.</p>	<p>Examined the effects of various forms of maltreatment (physical, emotional, sexual abuse, neglect and witnessing violence) on the development of PTSD in children.</p>	<p>Witnessing family violence was defined as the child directly observing the battering of a parent or sibling and was not specifically related to DA between caregivers. Trauma symptoms following any type of maltreatment were reported in combination not individually by maltreatment type (trauma symptoms following exposure to DA was not reported).</p>
<p>Fantuzzo, J.W., Fusco, R.A., & Mohr, W.K. (2007). Domestic violence and children's presence: A population-based study of law enforcement surveillance of domestic violence. <i>Journal of Family Violence</i>, 22, 331-340.</p>	<p>Examined whether 1. Police officers could collect data on domestic violence events which they were called to and 2. Analysed the data collected to examine the prevalence and nature of the violence and children's presence.</p>	<p>A measure of C and A trauma symptoms/ PTSD diagnosis was not included or measured as part of child outcomes.</p>
<p>Faulkner, B., Goldstein, A.L., & Wekerle, C. (2014). Pathways from childhood maltreatment: investigating trauma-mediated substance use and dating violence outcomes among child protective services-involved youth. <i>Child Maltreatment</i>, 19 (3-4), 219-232. doi: 10.1177/1077559514551944.</p>	<p>Examined whether trauma symptoms mediated the relationship between child abuse, neglect, exposure to DA and dating violence, marijuana and alcohol use.</p>	<p>A measure of exposure to DA was not included. Participants were asked to respond via a 5-point likert scale how often they have been exposed to aggression between caregivers in the home. Trauma symptoms were analysed as a mediator of the relationship between exposure to maltreatment and substance abuse (trauma symptoms following exposure to DA were not measured/reported in this study).</p>
<p>Finkelhor, D., Ormrod, R.K., & Turner, H.A. (2007). Poly-victimisation: A neglected component in child victimisation. <i>Child Abuse and Neglect</i>, 31, 7-26. doi: 10.1016/j.chiabu.2006.06.008.</p>	<p>Assessed whether the concept of "poly-victimisation" resulted in trauma symptomatology.</p>	<p>A measure of exposure to DA was not included. A number of different trauma types were assessed. Trauma symptoms were reported in combination for any witnessed/ indirect trauma including witness to DA, war, assault with weapons (trauma symptoms following exposure to DA was not reported).</p>

Finkelhor, D., Shattuck, A., Turner, H.A., Ormrod, R., & Hamby, S.L. (2011). Polyvictimisation in developmental context. <i>Journal of Child and Adolescent Trauma</i> , 4 (4), 291-300. doi: 10.1080/19361521.2011.610432.	Examined polyvictimisation and distress symptoms in C and A.	A measure of exposure to DA was not used. Trauma symptoms following exposure to family violence were reported but this was not specific to DA/ violence between caregivers.
Ford, J.D., Hartman, K., Hawke, J., & Chapman, J.F. (2008). Traumatic victimisation, posttraumatic stress disorder, suicidal ideation and substance abuse risk among juvenile justice-involved youth. <i>Journal of Child and Adolescent Trauma</i> , 1, 75-92. doi: 10.1080/19361520801934456.	Examined the relationship of trauma exposure (direct and witnessed victimisation, neglect, abandonment, loss, accidental trauma) and PTSD, suicidality and substance abuse among adolescents detained in the juvenile justice system.	A measure of exposure DA was not included. Witnessed violence was assessed with the question, "Have you ever seen people in your family physically fighting, hitting, slapping, kicking or throwing thing at each other?" (Not specific to DA between caregivers).
Ford, J.D., Gagnon, K., Connor, D.F., & Pearson, G. (2011). History of interpersonal violence, abuse and nonvictimisation trauma and severity of psychiatric symptoms among children in outpatient psychiatric treatment. <i>Journal of Interpersonal Violence</i> , 26 (16), 3316-3337. doi: 10.1177/08862660510393009.	Examined whether specific forms of interpersonal violence (physical abuse, sexual abuse, domestic violence, community violence), poly-victimisation and other forms of interpersonal potentially traumatic events (e.g. severe accident, unexpected death of a primary caregiver) were associated with more severe externalising and internalising psychiatric problems in a sample of child and adolescent psychiatric outpatient admission.	A measure of exposure to DA was not included (exposure was assessed with a yes/no response to a direct question). A measure of C and A trauma symptoms/ PTSD diagnosis was not included.
Fredland, N., Symes, L., Gilroy, H., Paulson, R., Nava, A., McFarlane, J., & Pennings, J. (2015). Connecting partner violence to poor functioning for mothers and children: Modelling intergenerational outcomes. <i>Journal of Family Violence</i> , 30, 555-566. doi: 10.1007/s10896-015-9702-1.	Examined the intergenerational impact of abuse by investigating childhood abuse of mothers, maternal abuse, child witnessing abuse of their mother, child behaviour problems and socio-economic factors.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included as part of the outcomes.
Fusco, R., & Cahalane, H. (2013). Young children in the child welfare system: What factors contribute to trauma symptomatology? <i>Child Welfare</i> , 92 (5), 37-58.	Examined trauma symptomatology in children involved in the child welfare system. Child, maternal and maltreatment characteristics and their relationship to child trauma symptoms were examined.	A measure of exposure to DA was not included. Caregivers were asked, "In the past year have you been hit, slapped, kicked or otherwise physically hurt by your partner, or has your partner forced you to have an unwanted sex act?" Trauma symptoms in children were reported in

		response to any maltreatment/ witnessing violence (trauma symptoms following exposure to DA were not reported).
Galano, M.M., Miller, L.E., & Graham-Bermann, S.A. (2014). Avoidance symptom presentation of pre-schoolers exposed to intimate partner violence in a group therapy setting. <i>Child Care in Practice</i> , 20 (4), 399-414. doi:10.1080/13575279.2014.905455.	Aimed to gain a more complete understanding of pre-schoolers trauma symptom presentation and how avoidance symptoms present in group therapy.	Excluded as this study is a qualitative study.
Gewirtz, A.H., & Medhanie, A. (2008). Proximity and risk in children's witnessing of intimate partner violence incidents. <i>Journal of Emotional Abuse</i> , 8 (1-2), 67-82. doi: 10.1080/10926790801982436.	Reported data gathered from families who called for police assistance with DA incident's and assessed the relationship between exposure to violence and short term adjustment (assessing acute and chronic risk factors and whether they predicted functioning in the days following the incident).	Did not include a measure of exposure to DA.
Ghasemi, M. (2009). Impact of domestic violence on the psychological wellbeing of children in Iran. <i>Journal of Family Studies</i> , 15, 284-295.	Examined the psychological wellbeing of a community sample of children in Iran who had been exposed to DA compared to a clinical comparison group without exposure to DA.	DA in this study was defined as emotional, sexual, physical and verbal abuse against an intimate partner, child or other family member and was not specifically related to DA/ abuse between caregivers.
Graham-Bermann, S.A., & Levendosky, A.A. (1997). The social functioning of pre-school age children whose mothers are emotionally and physically abused. <i>Journal of Emotional Abuse</i> , 1 (1), 59-84. doi: 10.1300/J135v01n0104.	Examined the social interactions and emotional adjustment of pre-school children from violent and non-violent homes.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included/ assessed as part of emotional adjustment.
Graham-Bermann, S.A., & Seng, J. (2005). Violence exposure and traumatic stress symptoms as additional predictors of health problems in high-risk children. <i>The Journal of Paediatrics</i> , 146, 349-54.	Examined the hypothesis that both violence and traumatic stress symptoms are associated with negative health status among pre-school children living in poverty.	Violence assessed included both DA and community violence and outcomes were reported in combination. Trauma symptoms following exposure to DA were not assessed/ reported.
Graham-Bermann, S.A., Howell, K., Habarth, J., Krishnan, S., Loree, A., & Bermann, E.A. (2008). Toward assessing traumatic events and stress symptoms in preschool children from low-income families. <i>American Journal of Orthopsychiatry</i> , 78 (2), 220-228. doi: 10.1037/a0013977.	Examined 3 questions: 1. What kinds of traumatic events are pre-schoolers exposed to? 2. What are the symptoms that pre-schoolers show in response to a range of traumatic events? 3. Are different symptom clusters or categories	A measure of exposure to DA was not included. Trauma symptoms were reported in combination following a variety of traumatic events including death of a person or pet, family violence, high conflict divorce, sudden family loss, accident or injury, viewing the World Trade Centre

	associated with different traumatic events?	attacks. Family violence in this study was defined as witnessing violence, child abuse and sibling violence (trauma symptoms following exposure to DA were not reported).
Graham-Bermann, S.A., Gruber, G., Howell, K.H., & Girz, L. (2009). Factors discriminating among profiles of resilience and psychopathology in children exposed to intimate partner violence. <i>Child Abuse and Neglect</i> , 33, 648-660. doi:10.1016/j.chiabu.2009.01.002.	Examined factors discriminating among profiles of resilience and psychopathology in children exposed to DA.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included/ measured as part of outcomes.
Graham-Bermann, S.A., Castor, L.E., Miller, L.E., & Howell, K.H. (2012). The impact of intimate partner violence and additional traumatic events on trauma symptoms and PTSD in pre-school-aged children. <i>Journal of Traumatic Stress</i> , 25, 393-400. doi:10.1002/jts.21724.	Examined the impact of additional traumatic events on children exposed to DA.	The primary research question did not aim to investigate trauma symptoms in C and A exposed to DA but aimed to assess the impact of additional traumatic events on children exposed to DA. In addition, children in this study were aged 5 years and under (mean age 4.9 years).
Grasso, D.J., Saunders, B.E., Williams, L.M., Hanson, R., Smith, D.W., & Fitzgerald, M.M. (2013). Patterns of multiple victimisation among maltreated children in Navy families. <i>Journal of Traumatic Stress</i> , 26, 597-604. doi: 10.1002/jts.21853.	Examined profiles of caregiver-inflicted victimisation in children and adolescents referred to the Navy's Family Advocacy Programme due to allegations of physical abuse, sexual abuse or witnessing intimate partner violence.	A measure of exposure to DA was not included. Trauma symptoms were not analysed in response to DA exposure but as a result of overall victimisation (trauma symptoms following exposure to DA were not reported).
Greeson, J.K.P., Briggs, E.C., Layne, C.M., Belcher, H.M.E., Ostrowski, S.A., Kim, S., Lee, R.C., Vivrette, R.L., Pynoos, R.S., & Fairbank, J.A. (2014). Traumatic childhood experiences in the 21 st century: Broadening and building on the ACE studies with data from the National Child Traumatic Stress Network. <i>Journal of Interpersonal Violence</i> , 29 (3), 536-556.	Examined associations between the type of trauma experienced by C and A, behavioural problems and whether the number of different types of trauma predicted behavioural problems above demographic characteristics.	A measure of C and A trauma symptoms/PTSD diagnosis was not included.
Gerger, H.K., Myhre, A.K., Lydersen, S., & Jozefiak, T. (2015). Previous maltreatment and present mental health in a high-risk adolescent population. <i>Child Abuse and Neglect</i> , http://dx.doi.org/10.1016/j.chiabu.2015.05.003 .	Examined the impact of maltreatment on the prevalence and comorbidity of psychiatric disorders in a high-risk population of adolescents in residential care units.	A measure of exposure to DA was not included. Violence assessed was in relation to family members not specifically caregivers. Trauma symptoms reported for polyvictimisation; trauma symptoms were not reported specifically for DA.
Hagan, M.J., Sulik, M.J., & Lieberman, A.F. (2015). Traumatic life events and psychopathology in a high risk ethnically diverse sample of young children: A person-centred	Identified groups characterised by different patterns of traumatic events in a high risk	A measure of exposure to DA was not included. The mean age of children in this study was age 4.

approach. <i>Journal of Abnormal Child Psychology</i> , doi: 10.1007/s10802-015-0078-8.	population of young children and evaluated whether particular constellations of trauma were associated with greater externalising, internalising, or post-traumatic stress symptoms compared to other constellations.	
Haj-Yahia, M.M., & Kaloti, R.A. (2007). Mental health consequences of Palestinian adolescents' exposure to family violence. <i>Journal of Loss and Trauma: International Perspectives on Stress and Coping</i> , 13 (1), 1-41. doi: 10.1080/15325020701429130.	Examined the psychological consequences of adolescent's exposure to psychological abuse and physical violence in the family.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included/ assessed as part of outcomes.
Hanson, R.F., Self-Brown, S., Fricker-Elhai, A.E., Kilpatrick, D.G., Saunders, B.E., & Resnick, H.S. (2006) Relations among parental substance use, violence exposure and mental health: The national survey of adolescents. <i>Addictive Behaviors</i> , 31, 1988-2001. doi: 10.1016/j.addbeh.2006.01.012.	Examined relations among parental substance use, violence exposure, major depressive disorder and post-traumatic stress disorder.	A measure of exposure to DA was not included. Participants were asked whether they had witnessed, "seeing someone shot with a gun, seeing someone cut or stabbed with a knife, seeing someone threatened with a gun, knife or other weapon, seeing someone mugged or robbed, seeing someone raped or sexually assaulted". Violence could have occurred in home, school or the community (not specific to caregivers/ DA). Trauma symptoms were reported in combination in response to this assessment of violence (trauma symptoms following exposure to DA were not reported).
Hanson, R.F., Self-Brown, S., Fricker-Elhai, A.E., Kilpatrick, D.G., Saunders, B.E., & Resnick, H.S. (2006). The relations between family environment and violence exposure among youth: Findings from the national survey of adolescents. <i>Child Maltreatment</i> , 11 (1), 3-15. doi: 1177/1077559505279295.	Examined relations among family environment and violence exposure type controlling for demographics in adolescents.	A measure of exposure to DA was not included. Participants were asked about exposure to violence at home but were not asked about who perpetrated this or who was a victim. A measure of C and A trauma symptoms/ PTSD diagnosis was not included/ assessed as part of outcomes.
Hibel, L.C., Granger, D.A., Blair, C., & Cox, M.J. (2011). Maternal sensitivity buffers the adrenocortical implications of intimate partner violence exposure during early childhood. <i>Development and Psychopathology</i> , 23, 684-701. doi:10.1017/S0954579411000010.	Examined the effect of DA on adrenocortical reactivity and recovery during early childhood.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included/ assessed as part of outcomes.

Hickman, L.J., Jaycox, L.H., Setodji, C.M., Kofner, A., Schultz, D., Barnes-Proby, D., & Harris, R. (2012). How much does "How much" matter? Assessing the relationship between children's lifetime exposure to violence and trauma symptoms, behaviour problems and parenting stress. <i>Journal of Interpersonal Violence</i> , 28 (6), 1338-1362. doi: 10.1177/0886260512468239.	Examined whether and how violence exposure is related to a set of negative symptoms including child internalising and externalising behaviour problems, child PTSD symptoms and parenting stress.	A measure of exposure to DA was not included. Exposure to a number of different trauma types was assessed via a list. Trauma symptoms were reported as a result of a witnessing violence category which included seeing an assault on a parent or sibling, seeing other assaults with and without weapons, seeing murder, seeing or hearing gunshots, bombs or riots (trauma symptoms following exposure to DA were not reported).
Higgins, D.J., & McCabe, M.P. (2003). Maltreatment and family dysfunction in childhood and the subsequent adjustment of children and adults. <i>Journal of Family Violence</i> , 18 (2), 107-120.	Reported results of three studies examining adjustment problems associated with sexual abuse, physical abuse, psychological maltreatment, and neglect and witnessing family violence.	A measure of exposure to DA was not included (2 questions were asked to assess exposure). A measure of C and A trauma symptoms/ PTSD diagnosis was not included. Outcomes of maltreatment types were reported in combination (trauma symptoms following exposure to DA were not reported).
Ho, M.Y., & Cheung, F.M. (2010). The differential effects of forms and settings of exposure to violence on adolescent's adjustment. <i>Journal of Interpersonal Violence</i> , 25 (7), 1309-1337. doi: 10.1177/0886260509340548.	Examined the relationship between exposure to violence and psychosocial adjustment in secondary school students.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included/ measured as part of adjustment outcomes.
Holden, G.W., & Ritchie, K.L. (1991). Linking extreme marital discord, child rearing, and child behaviour problems: Evidence from battered women. <i>Child Development</i> , 62 (2), 311-327.	Examined relations between marital discord, parental behaviour and child behaviour in a sample of women who had experienced DA and a comparison group of women.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included/ assessed as part of child outcomes.
Horn, S.R., Miller-Graff, L.E., Galano, M.M., & Graham-Bermann, S.A. (2010). Posttraumatic stress disorder in children exposed to intimate partner violence: The clinical picture of physiological arousal symptoms. <i>Child Care in Practice</i> , 23 (1), 90-103.	This study examined therapists' qualitative reports on the presentation of physiological symptoms of young children exposed to DA while they participated in an intervention programme.	This study used a pre-school sample, children under the age of 5 years.

Horowitz, K., Weine, S., & Jekel, J. (1995). PTSD symptoms in urban adolescent girls: Compounded community trauma. <i>Journal of the American Academy of Child and Adolescent Psychiatry</i> , 34 (10), 1353-1361.	Examined domestic and community violence events, frequency of PTSD and profiles of PTSD symptom clusters in female adolescents.	A measure of exposure to DA was not included. Trauma symptoms were reported in response to, "witnessing violence" which related to any violence at home and was not specific to DA or caregiver violence in combination with witnessed community violence (trauma symptoms following exposure to DA were not reported).
Horowitz, K., McKay, M., & Marshall, R. (2005). Community violence and urban families: Experiences, effects and directions for intervention. <i>American Journal of Orthopsychiatry</i> , 75 (3), 356-363. doi: 10.1037/0002-9432.75.3.356.	Examined the impact of community-level stressors (particularly violence), coping strategies and community resources aimed at preventing exposure to violence or providing support following exposure to violence.	A measure of exposure to DA was not included. The violence assessed in this study was community violence not DA.
Hultmann, O., & Broberg, A.G. (2016). Family violence and other potentially traumatic interpersonal events among 9-to 17- year old children attending an outpatient psychiatric clinic. <i>Journal of Interpersonal Violence</i> , 31 (18), 2958-2986.	Examined the relationship of violence exposure to current psychiatric symptoms compared to patients with no violence exposure in a child and adolescent mental health sample.	A measure of DA was not included exposure to DA was assessed with one question asking whether the participant had seen their parents hitting each other OR destroying furniture. In addition, children who had experience child maltreatment were analysed in combination with children who responded positively to the DA question meaning that there was some children analysed in the sample who had not been exposed to DA and these groups were combined.
Hunt, K.L., Martena, P.M., & Belcher, H.M.E. (2011). Risky business: Trauma exposure and rate of posttraumatic stress disorder in African American children and adolescents. <i>Journal of Traumatic Stress</i> , 24 (3), 365-369. doi: 10.1002/jts.20648.	Examined associations between PTSD symptoms and gender, age, parental mental illness, parental substance abuse and interpersonal trauma in African American children.	A measure of exposure to DA was not included. Trauma symptoms were reported in combination for all interpersonal violence assessed, not specific type (trauma symptoms following exposure to DA were not reported).

Israel, E., & Stover, C. (2009). Intimate partner violence: The role of the relationship between perpetrators and children who witness violence. <i>Journal of Interpersonal Violence</i> , 24 (10), 1755-1764. doi: 10.1177/0886260509334044.	Examined whether DA perpetrated by biological fathers resulted in higher levels of post-traumatic stress symptoms and behaviour problems than violence perpetrated by non-biological fathers or multiple father figures.	Trauma symptoms following exposure to DA were not reported as it was the relationship of the perpetrator to the child and its effect on child outcomes that were being investigated.
Jaffe, P., Wolfe, D., Wilson, S., & Zak, L. (1986). Similarities in behavioural and social maladjustment among child victims and witnesses to family violence. <i>American Journal of Orthopsychiatry</i> , 56 (1), 142-146.	Compared adjustment in three groups of school age boys; boys who had witnessed violence between their parents, boys who had been abused by their parents and boys who had neither witnessed parental violence or experienced physical abuse.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included as a measure of adjustment.
Jarvis, K.L., & Novaco, R.W. (2006). Post-shelter adjustment of children from violent families. <i>Journal of Interpersonal Violence</i> , 21 (8), 1046-1062. doi:10.1177/0886260506290205.	Examined adjustment of children who had been exposed to severe interparental violence, received extensive shelter services with their mothers and were living in the community.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included/ measured as part of outcomes.
Jenkins, E.J., Wang, E., & Turner, L. (2009). Traumatic events involving friends and family members in a sample of African American early adolescents. <i>American Journal of Orthopsychiatry</i> , 79 (3), 398-406. doi: 10.1037/a0016659.	Examined violent and nonviolent traumatic events involving friends and family members as predictors of PTSD, depression, internalising and externalising behaviours in African American adolescents from chronically violent environments.	Trauma symptoms following exposure to DA were not specifically reported as outcomes were reported across broad categories of exposure to different types of violence, not specific categories.
Jouriles, E.N., Brown, A.S., McDonald, R., Rosenfield, D., & Leahy, M.M. (2008). Intimate partner violence and pre-schooler's explicit memory functioning. <i>Journal of Family Psychology</i> , 22 (3), 420-428. doi: 10.1037/0893-3200.22.3.420.	Examined whether intimate partner violence related to pre-schoolers explicit memory functioning and whether children's symptoms of hyperarousal mediate this relationship and whether mothers' positive parenting moderates this relationship.	Although both a measure of exposure to DA and C and A trauma symptoms were included trauma symptoms were not analysed as a response to DA but analysed as a mediator of the relationship between exposure to DA and children's memory function (C and A trauma symptoms following exposure to DA were not reported).

Kaminer, D., Grimsrud, A., Myer, L., Stein, D.J., & Williams, D.R. (2008). Risk for posttraumatic stress disorder associated with different forms of interpersonal violence in South Africa. <i>Social Science Medicine</i> , 67 (10), 1589-1595.	Examined the comparative contributions of different forms of violence exposure (witnessing physical violence in the community, being a victim of physical violence in the community, witnessing physical violence in the home, being a victim of physical violence in the home and sexual victimisation) to post-traumatic stress disorder symptoms among adolescents in a low-income urban community in South Africa.	A specific measure of exposure to DA was not included. Exposure was assessed with five questions; "heard grown-ups at home yell at each other, seen a gun in your home, seen grown-ups at home hit each other, seen someone in your home get shot or stabbed, seen a family member pull a knife or gun on another family member" (not specific to DA/ violence between caregivers). Trauma symptoms were reported for exposure to all types of violence exposure in combination, not specifically for DA.
Kaminer, D., Hardy, A., Heath, K., Mosdell, J., & Bawa, U. (2013). Gender patterns in the contribution of different types of violence to posttraumatic stress symptoms among South African urban youth. <i>Child Abuse and Neglect</i> , 37, 320-330.	Examined the comparative contributions of different forms of violence exposure to trauma symptoms.	A measure of exposure to DA was not included. DA was assessed with five questions, for example "have you ever seen a gun in your home, seen someone in your home get shot or stabbed" (not specific to DA/ violence between caregivers).
Kaslow, N., & Thompson, M.P. (2008). Associations of child maltreatment and intimate partner violence with psychological adjustment among low SES, African American children. <i>Child Abuse and Neglect</i> , 32, 888-896. doi: 10.1016/j.chiabu.2007.09.012.	Assessed the unique and interactive effects of child maltreatment and mother's physical intimate partner violence status on low-socioeconomic status African American children.	Experiences of maltreatment and violence were assessed and outcomes reported in combination not specifically for maltreatment type (trauma symptoms following exposure to DA were not reported).
Katz, L.F., & Gurtovenko, K. (2015). Posttraumatic stress and emotion regulation in survivors of intimate partner violence. <i>Journal of Family Psychology</i> , 29 (4), 528-536.	Examined children's emotion regulation as a moderator and mother's emotion regulation as a mediator of the relation between mother PTSS and child adjustment.	A measure of exposure to DA was not included. Only the mean number of child trauma symptoms were reported for the whole sample; the relationship between DA exposure and trauma symptoms were not reported.
Kerig, P.K. (1998). Moderators and mediators of the effects of interparental conflict on children's adjustment. <i>Journal of Abnormal Child Psychology</i> , 26 (3), 199-212.	Examined moderation and mediation models of the effects of appraisals on the relationships between interpersonal conflict and child adjustment.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included/ assessed as part of outcomes.

Kilpatrick, K.L., & Williams, L.M. (1998). Potential mediators of post-traumatic stress disorder in child witnesses to domestic violence. <i>Child Abuse and Neglect</i> , 22 (4) 319-330.	Examined potential mediating variables in the relationship between children witnessing DA and PTSD.	The data reporting on C and A trauma symptoms following exposure to DA was the same data that had been reported in a previous study already included in this systematic review and if used would have been a replication of data. On this occasion, the authors analysed the data while looking for a number of mediating variables.
Kisiel, C., Fehrenbach, T., Small, L., & Lyons, J.S. (2009). Assessment of complex trauma exposure, responses and service need among children and adolescents in child welfare. <i>Journal of Child and Adolescent Trauma</i> , 2,143-160. doi: 10.1080/19361520903120467.	Examined exposure to multiple, chronic interpersonal traumas and mental health functioning.	Exposure to multiple traumas were assessed including child maltreatment (physical, emotional, sexual abuse and neglect) and outcomes were reported in combination for all traumas (trauma symptoms following exposure to DA were not reported).
Kisiel, C.L., Fehrenbach, T., Torgersen, E., Stolbach, B., McClelland, G., Griffin, G., & Burkman, K. (2014). Constellations of interpersonal trauma and symptoms in child welfare: Implications for a developmental trauma framework. <i>Journal of Family Violence</i> , 29, 1-14. doi: 10.1007/s10896-013-9559-0.	Examined trauma exposure and symptoms in a sample of children in child welfare.	A measure of exposure to DA was not included. Violent trauma, non-violent attachment trauma, non-violent trauma and other trauma were assessed and outcomes reported in combination (trauma symptoms following exposure to DA were not reported).
Klasen, F., Oettingen, G., Daniels, J., & Adam, H. (2010). Multiple trauma and mental health in former Ugandan child soldiers. <i>Journal of Traumatic Stress</i> , 23 (5), 573-581. doi: 10.1002/jts.20557.	Examined the effect of war and DA on the mental health of former Ugandan child soldiers.	A measure of exposure to DA was not included. In this study DA referred to physical and sexual child abuse in the family home. A measure of C and A trauma symptoms/ PTSD diagnosis was not included/measured in this study.
Kletter, H., Weems, C.F., & Carrion, V.G. (2009). Guilt and post-traumatic stress symptoms in child victims of interpersonal violence. <i>Clinical Child Psychology and Psychiatry</i> , 14 (1), 71-83. doi: 10.1177/1359104508100137.	Examined relationships between guilt and post-traumatic stress disorder (PTSD) symptoms in children with a history of interpersonal violence.	Interpersonal violence in this study was defined as witnessing DA, child maltreatment (physical, emotional, sexual abuse and neglect) and separation and loss. Outcomes were reported in combination (trauma symptoms following exposure to DA were not reported).

Kliewer, W., Murrelle, L., Mejia, R., Torres, G.Y., & Angold, A. (2001). Exposure to violence against a family member and internalising symptoms in Colombian adolescents: The protective effects of family support. <i>Journal of Consulting and Clinical Psychology</i> , 69 (6), 971-982. doi: 10.1037//0022-006x.69.6.971.	Examined associations between exposure to family violence, internalising symptoms and protective effects of family support versus peer support in adolescents.	A measure of exposure to DA was not included. A measure of C and A trauma symptoms/ PTSD diagnosis was not included/ assessed.
Klitzing, K., Perren, S., Klein, A.M., Stadelmann, S., White, L.O., Groeben, M., Holsboer-Trachsler, E., Brand, S., & Hatzinger, M. (2012). The interaction of social risk factors and HPV axis dysregulation in predicting emotional symptoms of five-and six-year-old children. <i>Journal of Psychiatric Research</i> , 46, 290-297.	Examined links between social relational (family environment and peer victimisation) and neuroendocrinological (HPA axis dysregulation) risk factors to children's emotional symptoms.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included.
Kolko, D.J., Hurlburt, M.S., Zhang, J., Barth, R.P., Leslie, L.K., & Burns, B.J. (2010). Post-traumatic stress symptoms in children and adolescents referred for child welfare investigation. <i>Child Maltreatment</i> , 15 (1), 48-63.	Examined the prevalence and correlates of post-traumatic stress symptoms in children and adolescents who were referred to child welfare for investigation of abuse or neglect.	A measure of exposure to DA was not included. Participants were asked whether they had witnessed violence at home but DA/caregiver violence was not specified (trauma symptoms following exposure to DA were not reported).
Koolick, J., Galano, M., Grogan-Kaylor, A., Clark, H., Montalvo-Liend, N., & Graham-Bermann, S. (2016). PTSD symptoms in young children exposed to intimate partner violence in four ethno-racial groups. <i>Journal of Child and Adolescent Trauma</i> , 9 (2), 97-107.	Examined posttraumatic stress symptoms and PTS diagnoses in four different ethno-racial groups of children.	The children were aged 4-6 years with a mean age of 4. The trauma symptoms for 5 and 6 year olds were not reported individually.
Kulkarni, M., Graham-Bermann, S., Rauch, S.A.M., & Seng, J. (2011). Witnessing versus experiencing direct violence in childhood as correlates of adulthood PTSD. <i>Journal of Interpersonal Violence</i> , 26 (6), 1264-1281. doi:10.1177/0886260510368159.	Examined whether witnessing DA and experiencing child abuse were associated with PTSD while controlling for additional trauma experiences.	The participants were not children and adolescents but pregnant, adult women.
Lamers-Winkelmann, F., Willemsen, A.M., & Visser, M. (2012). Adverse childhood experiences of referred children exposed to intimate partner violence: Consequences for their wellbeing. <i>Child Abuse and Neglect</i> , 36, 166-179. doi: 10.1016/j.chiabu.2011.07.006.	Examined the relationships among adverse childhood experiences (ACE) and behavioural, emotional and trauma symptoms in children whose mothers experienced DA.	A measure of exposure to DA was not included; women were asked to confirm whether they had been exposed to DA. A number of ACE were assessed and trauma symptoms were reported in response to the combination of ACE (trauma symptoms following exposure to DA were not reported).

Lang, J.M., & Smith Stover, C. (2008). Symptom patterns among youth exposed to intimate partner violence. <i>Journal of Family Violence</i> , 23, 619-629. doi: 10.1007/s10896-008-9184-5.	Examined symptom patterns and predictors of symptoms patterns using cluster analysis.	Primary question did not aim to investigate trauma symptoms in children exposed to DA but investigated predictors of symptoms patterns such as maternal distress, aggression and trauma history.
Lannert, B.K., Garcia, A.M., Smagur, K.E., Yalch, M.M., Levendosky, A.A., Bogat, G.A., & Lonstein, J.S. (2014). Relational trauma in the context of intimate partner violence. <i>Child Abuse and Neglect</i> , 38, 1966-1975.	Examined the effects of DA, maternal trauma symptoms and harsh and neglectful parenting on infant trauma symptoms.	Trauma symptoms were not assessed or reported in response to DA alone. Children were infants under the age of one year old.
Leenarts, L.E.W., Vermeiren, R.R.J.M., van de Ven, P.M., Lodewijks, H.P.B., Doreleijers, T.H.A., & Lindauer, R.J.L. (2013). Relationships between interpersonal trauma, symptoms of post-traumatic stress disorder and other mental health problems in girls in compulsory residential care. <i>Journal of Traumatic Stress</i> , 26, 526-529. doi: 10.1002/jts.21831.	Examined relationships between exposure to interpersonal trauma, post-traumatic stress disorder symptoms and other mental health problems.	A measure of exposure to DA was not included. PTSD symptoms were examined as a mediator of the relationship between exposure to interpersonal trauma and mental health problems (trauma symptoms following exposure to DA were not reported).
Leeson, F.J., & Nixon, R.D.V. (2011). The role of children's appraisals on adjustment following psychological maltreatment: A pilot study. <i>Journal of Abnormal Child Psychology</i> , 39, 759-771. doi: 10.1007/s10802-011-9507-5.	Examined the role of thinking styles on children's outcomes (depression, PTSD, self-esteem, internalising, externalising) following maltreatment.	A measure of exposure to DA was not included. Exposure to DA was assessed with the question, "I saw or heard one of my parents/ caregivers hitting, pushing or threatening my other caregiver". Maltreatment assessed included physical, emotional, sexual abuse and neglect and witnessing DA. Outcomes were reported for all maltreatment in combination and compared to a control group (trauma symptoms following exposure to DA were not reported).
Levendosky, A.A., Huth-Bocks, A.C., Semel, M.A., & Shapiro, D.L. (2002). Trauma symptoms in pre-school age children exposed to domestic violence. <i>Journal of Interpersonal Violence</i> , 17, 150-164. doi: 10.1177/088626050201002003.	Examined the effects of DA on trauma symptoms in pre-school children.	The children in this study were aged three to five years old.
Levendosky, A.A., Bogat, G.A., & Martinez-Torteya, C. (2013). PTSD symptoms in young children exposed to intimate partner violence. <i>Violence Against Women</i> , 19 (2), 187-201.	Examined DA and children's trauma symptoms.	The children in this study were aged under five years old.
Linning, L.M., & Kearney, C.A. (2004). Post-traumatic stress disorder in maltreated youth: A study of diagnostic comorbidity and child factors.	Examined maltreated youth with or without PTSD hypothesising that	A measure of DA was not included, maltreated youth referred to youth who had

<p><i>Journal of Interpersonal Violence</i>, 19 (10), 1087-1101. doi: 10.1177/0886260504269097.</p>	<p>youth with PTSD compared to those without would have experienced significantly greater duration of abuse, diagnostic co-morbidity, dysfunctional family environment and avoidant coping styles.</p>	<p>experienced physical or sexual abuse (exposure to DA not assessed).</p>
<p>Lipschitz, D.S., Rasmussen, A.M., Anyan, W., Cromwell, P., & Southwick, S.M. (2000). Clinical and functional correlates of posttraumatic stress disorder in urban adolescent girls at a primary care clinic. <i>Journal of the American Academy of Child and Adolescent Psychiatry</i>, 39 (9), 1104-1111.</p>	<p>Examined maltreatment, violence exposure and PTSD symptoms in adolescent girls.</p>	<p>A measure of exposure to DA was not included. DA was not assessed; the witnessed violence assessed in this study was community violence not DA and outcomes were based on community violence exposure and maltreatment.</p>
<p>Liu, D., Chu, C.M., Neo, L.H., Ang, R.P., Tan, M.Y.L., & Chu, J. (2016). Multiple trauma exposure and psychosocial functioning in Singaporean children in out-of-home care. <i>Psychological Trauma: Theory, Research, Practice, and Policy</i>, 8 (4), 431-438.</p>	<p>Examined the effects of multiple interpersonal trauma exposure in a large sample of children in out-of-home care in Singapore.</p>	<p>A measure of exposure to DA was not included. Reported on outcomes resulting from multiple, not specific trauma type. Outcomes focused on the number of needs displayed rather than the severity of symptoms.</p>
<p>Liu, H., Petukhova, M.V., Sampson, N.A., Aguilar-Gaxiola, S., Alonso, J., Andrade, L.H., Bromet, E.J., de Girolamo, G., Haro, J.M., Hinkov, H., Kawakami, N., Koennen, K.C., Kovess-Masfety, V., Lee, S., Medina-Mora, M.E., Navarro-Mateu, F., O'Neill, S., Piazza, M., Posada-Villa, J., Scott, K.A., Shahly, V., Stein, D.J., Have, M., Torres, Y., Gureje, O., Zaslavsky, A.M., & Kessler, R.C. (2017). Association of DSM-IV posttraumatic stress disorder with traumatic experience type and history in the world health organisation world mental health surveys. <i>JAMA Psychiatry</i>, 74 (3), 270-281.</p>	<p>Examined associations between type of traumatic experience history and PTSD in a large cross national community epidemiologic data set.</p>	<p>A measure of exposure to DA was not included. Adult population.</p>
<p>Lopez, C.M., Andrews, A.R., Chisolm, A.M., de Arellano, M.A., Saunders, B., & Kilpatrick, D.G. (2016). Racial/ ethnic differences in trauma exposure and mental health disorders in adolescents. <i>Cultural Diversity and Ethnic Minority Psychology</i>. http://dx.doi.org/10.1037/cdp0000126.</p>	<p>Examined racial/ ethnic differences in correlates of mental health and trauma.</p>	<p>A measure of exposure to DA was not included. Results were reported for polyvictimisation not specific violence type. Trauma symptoms following exposure to DA were not reported.</p>
<p>Luthra, R., Abramovitz, R., Greenberg, R., Schoor, A., Newcorn, J., Schmeidler, J., Levine, P., Nomura, Y., & Chemtob, C. M. (2009). Relationship between type of trauma exposure and post-traumatic stress disorder among urban children and adolescents. <i>Journal of Interpersonal Violence</i>, 24 (11), 1919-1927.</p>	<p>Examined the association between trauma exposure and post-traumatic stress disorder among children.</p>	<p>A measure of exposure to DA was not included. Participants were asked via a checklist which events they had been exposed to (car accident, other accident, fire, witnessing a disaster, witnessing a</p>

		violent crime, receiving traumatic news, witnessing DA, physical abuse, sexual abuse). Trauma symptoms were reported in combination for all event types (trauma symptoms following exposure to DA were not reported).
Luz, M.P., Coutinho, E.S.F., Berger, W., Mendlowicz, M.V., Vilete, L.M.P., Mello, M.F., Quintana, M.I., Bressan, R.A., Andreoli, S.B., Mari, J.J., & Figueira, I. (2016). Conditional risk for posttraumatic stress disorder in an epidemiological study of a Brazilian urban population. <i>Journal of Psychiatric Research</i> , 72, 51-57.	Cross sectional study of 15-75 year olds examining the prevalence of exposure to traumatic events, the conditional risk of PTSD according to type of traumatic event and the proportion of PTSD cases in the general population secondary to each type of traumatic event.	A measure of exposure to DA was not included; exposure to trauma was a question relating to the participants worst traumatic event. Although 15-18 year olds were included the data from adolescents and adults were reported in combination.
MacMillan, K.M., & Harpur, L.L. (2003). An examination of children exposed to marital violence accessing a treatment intervention. <i>Journal of Emotional Abuse</i> , 3 (3-4), 227-252. doi: 10.1300/J135v03n03_04.	Examined the well-being of children and parents attending a group treatment programme for children exposed to DA.	A measure of exposure to DA was not included. The primary research question aimed to assess effectiveness of an intervention; trauma symptoms in C and A following exposure to DA was not assessed/reported.
Markward, M.J. (1997). The impact of domestic violence on children. <i>Families in Society</i> , 78 (1), 66-70.	Examined child abuse and child behaviour reported by mothers who were living in a shelter.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included/ assessed.
Marshall, A.D. (2016). Developmental timing of trauma exposure relative to puberty and the nature of psychopathology among adolescent girls. <i>Journal of the American Academy of Child and Adolescent Psychiatry</i> , 55 (1), 25-32.	Examined whether traumatic events during puberty uniquely predicts adolescent girls' psychopathology.	A measure of DA was not included, a question asked whether a participant had, "witnessed family violence". Trauma symptoms following exposure to DA not reported.
Martin, S.E., & Clements, M.L. (2002). Young children's responding to interparental conflict: Associations with marital aggression and child adjustment. <i>Journal of Child and Family Studies</i> , 11 (2), 231-244.	Examined children's emotional and behavioural response to marital conflict as a potential mechanism linking marital physical aggression and children's behavioural adjustment.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included; trauma symptoms were not measured as part of outcomes.

McCloskey, L.A., Southwick, K., Fernandez-Esquer, M.M., & Locke, C. (1995). The psychological effects of political and domestic violence on central American and Mexican immigrant mothers and children. <i>Journal of Community Psychology</i> , 23, 95-116.	Examined the psychological effects of political and domestic violence on central American and Mexican immigrant mothers and children	The primary research question did not aim to investigate C and A trauma symptoms/ PTSD diagnosis in children exposed to DA but aimed to compare the psychosocial adjustment of immigrant mothers and their children from Mexico and countries in Central America. Although trauma symptoms were reported they were reported as a comparison between groups; trauma symptoms in C and A following exposure to DA were not directly reported.
McCloskey, L.A., Figueredo, A.J., & Koss, M.P. (1995). The effects of systemic family violence on children's mental health. <i>Child Development</i> , 66 (5), 1239-1261.	Examined the link between different forms of family aggression and children's symptoms of psychopathology.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included/ assessed as part of the outcomes.
McGee, R.A., Wolfe, D.A., & Wilson, S.K. (1997). Multiple maltreatment experiences and adolescent behaviour problems: Adolescents' perspectives. <i>Development and Psychopathology</i> , 9, 131-149.	Examined adolescent's perceptions of their maltreatment experiences (physical, sexual, psychological abuse and neglect and exposure to family violence) in relation to adolescent adjustment.	A measure of exposure to DA was not included. A measure of C and A trauma symptoms/ PTSD diagnosis was not included as part of adolescent adjustment.
McLaughlin, K.A., Koenen, K.C., Hill, E.D., Petukhova, M., Sampson, N.A., Zaslavsky, A.M., & Kessler, R.C. (2013). Trauma exposure and post-traumatic stress disorder in a national sample of adolescents. <i>Journal of the American Academy of Child and Adolescent Psychiatry</i> , 52 (8), 815-830. doi: 10.1016/j.jaac.2013.05.011.	Examined adolescent's lifetime prevalence of exposure to potentially traumatic experiences, post-traumatic stress disorder, sociodemographic and other DSM-IV disorders.	A measure of exposure to DA was not included. Adolescents reported on trauma symptoms relating to the, "worst potentially traumatic experience" (interpersonal violence related to kidnapping, physical abuse by caregiver, assault by romantic partner, other physical assault, threatened with weapon, rape, sexual assault, stalked, witnessed DA) outcomes were reported in combination for all interpersonal violence noted above (trauma symptoms following exposure to DA were not reported).
McLaughlin, K.A., Koenen, K.C., Friedman, M.J., Ruscio, A.M., Karam, E.G., Shahly, V., Stein, D.J., Hill, E.D., Petukhova, M., Alonso, J., Andrade, L.H., Angermeyer, M.C., Borges, G., de Girolama, G., de Graaf, R., Demyttenaere, K., Florescu, S.E., Mladenova, M., Posada-Villa, J.,	Examined data from a large cross-national epidemiologic survey to assess subthreshold PTSD definition.	A measure of exposure to DA was not included. Trauma symptoms following exposure to DA were not reported. Adult population.

Scott, K.M., Takeshima, T., & Kessler, R.C. (2015). Subthreshold posttraumatic stress disorder in the world health organisation world mental health surveys. <i>Biological Psychiatry</i> , 77, 375-384.		
Melancon, C., & Gagne, M. (2011). Father's and mother's psychological violence and adolescent behaviour adjustment. <i>Journal of Interpersonal Violence</i> , 26 (5), 991-1011. doi: 10.1177/0886260510365863.	Examined maternal and paternal psychological violence as potential risk factors for internalised and externalised behaviour problems in adolescents, taking childhood family violence, extra family violence and family structure into account.	A measure of exposure to DA was not included. A measure of C and A trauma symptoms/ PTSD diagnosis was not included/ assessed.
Milan, S., Zona, K., Acker, J., & Turcios-Cotto, V. (2013). Prospective risk factors for adolescent PTSD: Sources of differential exposure and differential vulnerability. <i>Journal of Abnormal Child Psychology</i> , 41, 339-353. doi: 10.1007/s10802-012-9677-9.	Examined whether factors associated with adolescent exposure to violence (sustained physical injury, parent as perpetrator, location of the event) predict increased PTSD risk.	A measure of exposure to DA was not included. C and A trauma symptoms as a result of exposure to DA were not assessed.
Miller, L.E., Howell, K.H., & Graham-Bermann, S.A. (2012). Predictors of pre-schooler's appraisals of conflict in families experiencing intimate partner violence. <i>Journal of Interpersonal Violence</i> , 27 (3), 568-586. doi: 10.1177/0886260511421675.	Examined factors which may contribute to children's appraisals of their parent's violent conflicts (level of violence, maternal mental health, child mental health) in families experiencing recent DA.	Trauma symptoms were not analysed in response to DA exposure but as a mediator of the relationship between violence exposure and internalising and externalising symptoms in children (trauma symptoms following exposure to DA were not reported).
Miller, L.E., Howell, K.H., & Graham-Bermann, S.A. (2012). Potential mediators of adjustment for preschool children exposed to intimate partner violence. <i>Child Abuse and Neglect</i> , 36, 671-675. doi:10.1016/j.chiabu.2012.07.005.	Examined whether children's post-traumatic stress reactions mediated the relationship between violence exposure and internalising and externalising adjustment problems.	C and A trauma symptoms were not analysed in response to exposure to DA but as a mediator between violence exposure and internalising/ externalising problems (trauma symptoms following exposure to DA were not reported).
Miller, L.E., & Howell, K.H. (2015). Posttraumatic stress symptom trajectories among children exposed to violence. <i>Journal of Traumatic Stress</i> , 28, 17-24. doi: 10.1002/jts.21989.	Analysed post-traumatic stress symptom trajectories over time in a high risk group of children with confirmed or likely experiences of maltreatment (physical, emotional, sexual abuse and neglect and witnessing violence).	Witnessing violence in this study included both DA and community violence exposure. Trauma symptoms were reported following the combination for both types of violence (outcome for DA was not reported individually).
Miranda, J.K., de la Osa, N., Granero, R., & Ezpeleta, L. (2013). Multiple mediators of the relationships among maternal childhood abuse, intimate partner violence and offspring	Examined whether maternal depression, mothers and fathers parenting, child physical	A measure of exposure to DA was not included. Exposure to violence was assessed with the question

psychopathology. <i>Journal of Interpersonal Violence</i> , 28 (14), 2941-2965. doi: 10.1177/0886260513488686.	punishment and negative life events mediate the effect of maternal child abuse, intimate partner violence and cumulative violence on Spanish children and adolescents psychopathology.	of whether children had seen their parents hitting each other during an argument. A measure of C and A trauma symptoms/ PTSD diagnosis was not included or measured as part of outcomes.
Modrowski, C.A., Miller, L.E., Howell, K.H., & Graham-Bermann, S.A. (2013). Consistency of trauma symptoms at home and in therapy for preschool children exposed to intimate partner violence. <i>Psychological Trauma: Theory, Research, Practice and Policy</i> , 5 (3), 251-258. doi: 10.1037/a0027167.	Examined whether children expressed similar levels of post-traumatic stress symptoms in home and in therapy and whether a difference existed between therapists and mothers rating of child trauma symptoms.	Children were pre-schoolers aged five years and under.
Mohammad, E.T., Shapiro, E.R., Wainwright, L.D., & Carter, A.S. (2015). Impacts of family and community violence exposure on child coping and mental health. <i>Journal of Abnormal Child Psychology</i> , 43, 203-215. doi: 10.1007/s10802-014-9889-2.	Examined relations between children's exposure to family and community violence, child mental health and emotionally-regulated coping as a protective factor in children living in single-parent families who were either homeless, residing in emergency shelters or housed but living in poverty.	Various violence exposures assessed including DA, maltreatment (physical/sexual abuse) and community violence. Trauma symptoms following exposure to violence were reported in combination, not for specific violence type (C and A trauma symptoms following exposure to DA were not reported).
Moore, J.G., Galcius, A., & Pettican, K. (1981). Emotional risk to children caught in violent marital conflict – The Basildon Treatment Programme. <i>Child Abuse and Neglect</i> , 5, 147-152.	Reported on a treatment programme and its impact on family violence.	Excluded because this paper was a qualitative study. A measure of exposure to DA and a measure of C and A trauma symptoms/ PTSD diagnosis were not included or measured as part of child outcomes.
Moretti, M.M., Obsuth, I., Odgers, C.L., & Reebye, P. (2006). Exposure to maternal vs paternal partner violence, PTSD and aggression in adolescent girls and boys. <i>Aggressive Behavior</i> , 32, 385-395.	Examined the relation between exposure to maternal vs paternal physical DA and adolescents aggressive behaviour towards mothers, fathers, friends and romantic partners. The influence of PTSD on the relation between exposure to DA and aggressive behaviour was also assessed.	C and A trauma symptoms/ PTSD diagnosis following exposure to DA were not assessed; PTSD was analysed as a moderator of the relation between exposure to DA and aggressive behaviour in adolescents.
Mueser, K.T., & Taub, J. (2008). Trauma and PTSD among adolescents with severe emotional disorders involved in multiple service systems. <i>Psychiatric Services</i> , 59 (6), 627-634.	Examined the prevalence and correlates of PTSD among adolescents with severe emotional disorders who were	A measure of exposure to DA was not included. Multiple traumatic events were assessed (physical abuse, sexual abuse, death

	involved in multiple service systems.	of a loved one, someone close was murdered and witnessing DA) with a yes or no response and outcomes reported in combination.
Muller, R.T., Goebel-Fabbri, A.E., Diamond, T., & Dinklage, D. (2000). Social support and the relationship between family and community violence exposure and psychopathology among high risk adolescents. <i>Child Abuse and Neglect</i> , 24 (4), 449-464.	Examined the protective effect of social support in the relationship between exposure to violence (family violence and community violence experienced as a victim or witness) and internalising, externalising and posttraumatic stress symptoms.	The primary research question did not investigate trauma symptoms in C and A exposed to DA (trauma symptoms in C and A who had been exposed to DA were not reported).
Nothling, J., Suliman, S, Martin, L., Simmons, C., & Seedat, S. (2016). Differences in abuse, neglect, and exposure to community violence in adolescents with and without PTSD and depression. <i>Journal of Interpersonal Violence</i> , 1-17. doi: 10.1177/0886260516674944.	Examined demographic characteristics, exposure to trauma, community violence and childhood abuse and neglect in predicting symptom severity. Examined group differences in these factors in participants with no disorder, PTSD only, PTSD and depression and depression only.	A measure of exposure to DA was not included. DA was assessed with one question. Outcomes were analysed for total trauma exposure and not specifically for DA; trauma symptoms following exposure to DA were not reported. Study was focused on community violence and child maltreatment.
Nugent, N.R., Sanders, B.E., Williams, L.M., Hanson, R., Smith, D.W., & Fitzgeralds, M.M. (2009). Post-traumatic stress symptom trajectories in children living in families reported for family violence. <i>Journal of Traumatic Stress</i> , 22 (5) 460-466. doi: 10.1002/jts.20440.	Examined latent class trajectories of post-traumatic stress disorder and associations between demographics, prior trauma and reason for referral on class membership.	A measure of exposure to DA was not included. Trauma symptoms were reported in combination for any type of trauma experienced (trauma symptoms in C and A who had been exposed to DA were not reported).
Nurius, P.S., Russell, P.L., Herting, J.R., Hooven, C., & Thompson, E.A. (2009). Risk and protective profiles among never exposed, single form and multiple form violence exposed youth. <i>Journal of Child and Adolescent Trauma</i> , 2 (2), 106-123. doi: 10.1080/ 19361520902880798.	Examined adolescent exposure to violence, risk factors (emotional distress, life stress, suicide risk, risky behaviours) and protective factors (social support, school engagement, family structure) and adolescent adaptation.	A specific measure of exposure to DA was not included. Outcomes were based on whether adolescents had been exposed to no violent events, one form of violent event or multiple violent events (2 or more) from witnessing parental violence towards a family member (not specific to caregivers), witnessing a family member destroying things, experiencing physical abuse, experiencing sexual abuse, experiencing purposeful physical abuse by another.

		Outcomes were based on number of exposures, not type. A measure of C and A trauma symptoms/ PTSD diagnosis was not included when assessing emotional distress.
Overbeek, M., De Schipper, J. C., Lamers-Winkelman, F., & Schnuegel, C. (2013). Effectiveness of specific factors in community-based intervention for child-witnesses of interparental violence: A randomised trial. <i>Child Abuse and Neglect</i> , 37 (12), 1-13. doi: 10.1016/j.chiabu.2013.07.007.	Examined efficacy of a community-based intervention and control intervention for children and parents exposed to interparental violence based on internalising symptoms, externalising symptoms and post-traumatic stress outcomes.	Trauma symptoms following exposure to DA were not assessed/ reported.
Owen, A.E., Thompson, M.P., Shaffer, A., Jackson, E.B., & Kaslow, N.J. (2009). Family variables that mediate the relation between intimate partner violence (IPV) and child adjustment. <i>Journal of Family Violence</i> , 24, 433-445. doi:10.1007/s10896-009-9239-2.	Examined the mediating roles of several family variables in the relationship between witnessing DA and children's emotional and behavioural problems.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included/ assessed as part of child outcomes.
Ozer, E.J. (2005). The impact of violence on urban adolescents: Longitudinal effects of perceived school connection and family support. <i>Journal of Adolescent Research</i> , 20 (2), 167-192. doi: 10.1177/0743558404273072.	Longitudinal study which examined school connection and family support as protective factors for adolescent mental health (PTSD, happiness, aggression, anxiety, depression) and teacher reported competencies (school achievement, behaviour, work effort) in the context of exposure to violence.	The violence measured was not DA; a measure of exposure to community violence was used.
Ozkol, H., Zucker, M., & Spinazzola, J. (2011). Pathways to aggression in urban elementary school youth. <i>Journal of Community Psychology</i> , 39 (6), 733-748. doi: 10.1002/jcop.20464.	Examined pathways between children's exposure to violence, post-traumatic stress symptoms, permissive attitudes towards violence and engagement in aggressive behaviours.	A measure of exposure to DA was not included; it was community violence that was measured. Trauma symptoms following exposure to DA were not measured/ reported in this study.
Panther-Brick, C., Goodman, A., Tol, W., & Eggerman, M. (2011). Mental health and childhood adversities: A longitudinal study in Kabul, Afghanistan. <i>Journal of the American Academy of Child and Adolescent Psychiatry</i> , 50 (4), 349-363.	Examined predictors of mental health in children aged 11-16 years in Kabul, Afghanistan.	A measure of exposure to DA was not included. DA was assessed by the participant answering yes or no to the question, "has anyone in your family been violent or bad tempered towards other family members". Trauma symptoms following

		exposure to the assessed DA were not directly reported.
Pfouts, J.H., Schopler, J.H., & Henley, H.C. (1982). Forgotten victims of family violence. <i>Social Work</i> , 27 (4), 367-368.	Reported on observed behaviour in child witnesses to DA.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included or measured as part of child outcomes.
Phillips, S.D., & Zhao, J. (2010). The relationship between witnessing arrests and elevated symptoms of posttraumatic stress: Findings from a national sample of children involved in the child welfare system. <i>Children and Youth Services Review</i> , 32, 1246-1254. doi:10.1016/j.childyouth.2010.04.015.	Examined whether witnessing the arrest of a household member is associated with elevated posttraumatic stress symptoms.	A measure of exposure to DA was not included (child welfare workers reported on whether or not DA was present in the household). C and A trauma symptoms/ PTSD diagnosis following exposure to DA was not measured/ reported.
Pinto, R. J., Correia-Santos, P., Levendosky, A., & Jongenelen, I. (2016). Psychological distress and posttraumatic stress symptoms: The role of maternal satisfaction, parenting stress, and social support among mothers exposed to intimate partner violence. <i>Journal of Interpersonal Violence</i> , 1-23. DOI: 10.1177/0886260516674199.	Examined whether maternal satisfaction, parenting stress and social support are significantly associated with women's psychological functioning after adjusting for the type and severity of the IPV and socioeconomic variables. Whether maternal satisfaction, parenting stress and social support are significantly associated with children's emotional well-being and social behaviour after adjusting for PTSD symptoms and psychological distress from mothers.	Trauma symptoms in C and A were not measured.
Plattner, B., Silverman, M.A., Redlich, A.D., Carrion, V.G., Feucht, M., Friedrich, M.H., & Steiner, H. (2003). Pathways to dissociation: Intrafamilial versus extrafamilial trauma in juvenile delinquents. <i>The Journal of Nervous and Mental Disease</i> , 191 (12), 781-788.	Examined traumatic events experienced in the family environment and community and dissociative disorder and dissociation as a defence mechanism.	A measure of exposure to DA was not included. Multiple traumatic experiences were assessed including child maltreatment and outcomes were reported in combination for all traumatic experiences assessed. A measure of C and A trauma symptoms/ PTSD diagnosis was not included/ assessed as part of outcomes.
Price, M., Higa-McMillan, C., Sunyoung, K.B., & Frueh, C. (2013). Trauma experience in children and adolescents: An assessment of the effects of trauma type and role of interpersonal proximity. <i>Journal of Anxiety Disorders</i> , 27, 652-660.	Examined the relationship between type of trauma experience (non-interpersonal or interpersonal) and psychiatric	A measure of exposure to DA was not included. Violence assessed was not specific to DA e.g., "seen someone get hit", "seen someone attacked with a

	symptomatology using longitudinal data from a community sample of children and adolescents.	weapon". A measure of C and A trauma symptoms/ PTSD diagnosis was not included/ assessed as part of the symptomatology.
Reynolds, M.W., Wallace, J., Hill, T.F., Weist, M.D., & Nabors, L.A. (2001). The relationship between gender, depression and self-esteem in children who have witnessed domestic violence. <i>Child Abuse and Neglect</i> , 25, 1201-1206.	Examined gender differences in self-esteem and depression in school-age children who have witnessed DA.	A measure of exposure to DA was not included. Parents confirmed whether or not their children were exposed but DA was not measured. Trauma symptoms following exposure to DA were not reported, outcomes were reported in terms of gender differences.
Rieder, H., & Elbert, T. (2013). The relationship between organised violence, family violence and mental health: findings from a community-based survey in Muhanga, Southern Rwanda. <i>European Journal of Psychotraumatology</i> , 4, 1-10.	Examined prevalence rates and predictors of family violence in post-conflict Rwanda and whether high levels of war-related violence would result in higher levels of violence within families and an increase in psychological distress.	Family violence in this study referred to physical abuse, psychological abuse, sexual abuse and neglect. A measure of exposure to DA was not included/assessed.
Roberts, Y.H., Campbell, C.A., Ferguson, M., & Crusto, C.A. (2013). The role of parenting stress in young children's mental health functioning after exposure to family violence <i>Journal of Traumatic Stress</i> , 26, 605-612. doi:10.1002/jts.21842.	Examined the association of children's exposure to family violence events, parenting stress and children's mental health functioning.	A measure of exposure to DA was not included. Family violence in this study referred to abuse directed towards the child (sexual abuse, physical violence, verbal abuse, neglect, kidnapping, threatened violence, separation from a caregiver) or witnessed by the child (sexual abuse, physical violence, attempted suicide of a family member, threatened violence between family members). Outcomes were reported in response to all family violence not specific type. A measure of C and A trauma symptoms/ PTSD diagnosis was not included/ measured as part of outcomes.
Rosenthal, B.S., Wilson, W.C., & Futch, V.A. (2009). Trauma, protection and distress in late adolescence: A multi-determinant approach. <i>Adolescence</i> , 44 (176), 693-703.	Examined the relation between trauma events (victim of violence, witness of violence, victim of accidents and interpersonal loss), psychological distress and protective factors	A measure of exposure to DA was not included, it was exposure to community violence that was investigated in this study.

	(emotional social support, sense of personal efficacy, easy going temperament and gender) among adolescents.	
Rossman, R., Bingham, R.D., & Emde, R.N. (1997). Symptomatology and adaptive functioning for children exposed to normative stressors, dog attack and parental violence. <i>Journal of the American Academy of Child and Adolescent Psychiatry</i> , 36 (8), 1089-1097.	Examined predictors of posttraumatic symptomatology and adaptive functioning of children exposed to single and repetitive adverse events that varied in severity.	The primary research question did not aim to investigate trauma symptoms in C and A exposed to DA but aimed to compare levels of PTSD, dissociative symptoms and behavioural dysfunction for mildly to severe and acutely to repetitively stressed children to determine factors predicting trauma symptoms (trauma symptoms following exposure to DA were not directly reported). In addition, the data from this study was used in a subsequent Rossman (2000) study included in the systematic review because it included a larger sample size. If this study had been included the data would have been included twice in the systematic review.
Rossman, R., & Ho, J. (2000). Posttraumatic response and children exposed to parental violence. <i>Journal of Aggression, Maltreatment and Trauma</i> , 3 (1) 85-106.	Examined children's post traumatic response as a result of exposure to interpersonal violence. Using factor analysis examined how DSM-IV symptom clusters for PTSD came together for this sample of children.	The same participant data was used in another Rossman (2000) study included in the systematic review because it included a larger sample size. If this study had been used the data would have been included twice in the systematic review.
Rossman, R. (2001). Time Heals All <i>Journal of Emotional Abuse</i> , 1, 31-50. doi: 10.1300/j135v02n01_04.	Longitudinal study examining trauma symptoms, behaviour problems and school performance in children exposed to differing levels of parental conflict and violence.	Trauma symptoms were reported following exposure to 'maltreatment' which included DA and other forms of child maltreatment e.g. physical abuse (trauma symptoms following exposure to DA were not reported).
Saile, R., Ertl, V., Neuner, F., & Catani, C. (2015). Children of the post-war years: A two-generational multilevel risk assessment of child psychopathology in northern Uganda. <i>Development and Psychopathology</i> , 1-14. doi: 10.1017/S0954579415001066.	Examined risk constellations that predict child internalising and externalising behaviour problems, depression and posttraumatic stress symptoms in the post-	A measure of exposure to DA was not included. Trauma symptoms following exposure to DA were not reported as outcomes for different trauma types were reported in combination.

	conflict setting of Northern Uganda.	
Salazar, A.M., Keller, T.E., Gowen, L.K., & Courtney, M.E. (2013). Trauma exposure and PTSD among older adolescents in foster care. <i>Social Psychiatry and Psychiatric Epidemiology</i> , 48 (4), 545-551. doi: 10.1007/s00127-012-0563-0.	Examined the prevalence of exposure to specific types of traumatic events and lifetime PTSD diagnosis in adolescents with foster care experience.	A measure of exposure to DA was not included. Participants were asked whether they had, "witnessed someone being injured or killed" which was not specific to caregivers/ DA (trauma symptoms following exposure to DA were not reported).
Saltzman, K.M., Weems, C.F., & Carrion, V.G. (2006). IQ and post-traumatic stress symptoms in children exposed to interpersonal violence. <i>Child Psychiatry and Human Development</i> , 36 (3), 261-272. doi: 10.1007/s10578-005-0002-5.	Examined relationships between number of traumas, PTSD symptomatology and verbal, performance and full scale IQ scores in C and A.	A measure of exposure to DA was not included. Trauma symptoms were reported following exposure to any traumatic event, not specific to DA (trauma symptoms following exposure to DA were not reported).
Samuelson, K.W., & Cashman, C. (2008). Effects of intimate partner violence and maternal posttraumatic stress symptoms on children's emotional and behavioural functioning. <i>Journal of Emotional Abuse</i> , 8 (1-2), 139-153. doi: 10.1080/10926790801986007.	Examined relationships among children witnessing DA, maternal post-traumatic stress symptomatology and children's emotional and behavioural problems.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included/ assessed as part of outcomes.
Schechter, D.S., Zeanah, C. J., Myers, M.M., Brunelli, S.A., Liebowitz, M.R., Marshall, R.D., Coates, S.W., Trabaka, K.A., Baca, P., & Hofer, M.A. (2004). Psychobiological dysregulation in violence-exposed mothers: Salivary cortisol of mothers with very young children pre and post separation stress. <i>Bulletin of the Menninger Clinic</i> , 68 (4), 319-336.	Examined whether mother's interpersonal violence exposure during childhood and related post-traumatic stress symptoms were associated with physiological markers of maternal psychobiological dysregulation during child play and separation, disturbances in maternal attributions towards the child and measures of atypical maternal behaviour.	A measure of exposure to DA was not included. A measure of C and A trauma symptoms/ PTSD diagnosis was not included. Trauma symptoms following exposure to DA were not assessed/ reported.
Schechter, D.S., Willheim, E., McCaw, J., Turner, J.B., Myers, M.M., & Zeanah, C.H. (2011). The relationship of violent fathers, post traumatically stressed mothers and symptomatic children in a pre-school age inner-city paediatric clinic sample. <i>Journal of Interpersonal Violence</i> , 26 (18), 3699-3719. doi:10.1177/0886260511403747.	Examined whether greater severity of maternal post-traumatic stress symptoms in mothers who report interpersonal violence effected children's post-traumatic stress symptoms, externalising	A measure of exposure to DA was not included.

	and internalising symptoms.	
Schultz, D., Jaycox, L.H., Hickman, L.J., Setodji, C., Kofner, A., Harris, R., & Barnes, D. (2013). The relationship between protective factors and outcomes for children exposed to violence. <i>Violence and Victims</i> , 28 (4), 697-714.	Examined relationships between protective factors and adjustment and examined whether violence re-exposure contributed to changes in child outcomes over time.	A measure of exposure to DA was not included. Violence included exposure to DA, witness to parental assault of sibling, witness to assault with and without a weapon, murder of family/ friends, exposure to random shooting, terrorism, riots, and exposure to war/ethnic conflict. Outcomes were reported in combination for these events (trauma symptoms following exposure to DA were not reported).
Seedat, S., Nyamal, C., Njenga, F., Vythilingum, B., & Stein, D.J. (2004). Trauma exposure and post-traumatic stress symptoms in urban African schools. <i>British Journal of Psychiatry</i> , 184, 169-175.	Examined trauma exposure, post –traumatic stress symptoms and gender differences in adolescents from two African countries.	A measure of exposure to DA was not included. Violence assessed was, “seeing family members beaten, injured, hurt or killed” and witnessing community violence – not specific to DA/ violence between caregivers. In addition being in an accident, natural disaster, mugged, physically abused or sexually abused were also measured and trauma symptoms reported in response to combination of all trauma types assessed, not specific types (trauma symptoms following exposure to DA were not reported).
Shen, A.C., Feng, Y.J., Feng, J., Wei, H., Hsieh, Y., Huang, S.C., & Hwa, H. (2016) Who gets protection? A national study of multiple victimisation and child protection among Taiwanese children. <i>Journal of Interpersonal Violence</i> , 1-25. DOI: 10.1177/0886260516670885.	Examined the prevalence and effects of multiple types of victimisation on children’s mental health and behaviour in Taiwan.	A measure of exposure to DA was not included. DA exposure was assessed with questions: “I saw or heard my parents calling each other names” “I saw or heard my parents hitting each other”. Outcomes were reported in relation to number of events not type of event therefore trauma symptoms following exposure to DA were not reported.

Shipman, K.L., Rossman, R., & West, J.C. (1999). Co-occurrence of spousal violence and child abuse: Conceptual implications. <i>Child Maltreatment</i> , 4 (2), 93-102.	Examined familial and child factors that differentiate between non-abusive, spouse abusive and spouse and child abusive families.	Although both a measure of DA and C and A trauma symptoms/ PTSD diagnosis were included the primary research question did not aim to investigate trauma symptoms in C and A exposed to DA but investigated family and child factors which discriminated between families characterised by no violence, spouse abuse and child abuse (trauma symptoms following exposure to DA were not reported).
Silva, R., Alpert, M., Munoz, D., Singh, S., Matzner, F., & Dummit, S. (2000). Stress and vulnerability to post-traumatic stress disorder in children and adolescents. <i>The American Journal of Psychiatry</i> , 157 (8) 1229-1235.	Examined factors and vulnerabilities that contribute to the development of post-traumatic stress disorder in children and adolescents.	A measure of exposure to DA was not included. Exposure to various traumatic events was assessed via interview.
Smith, C., & Holford, L. (1993). Posttraumatic stress disorder South Africa's children and adolescents. <i>South African Journal of Child and Adolescent Mental Health</i> , 5 (2), 57-69. doi: 10.1080/16826108.1993.9631510.	Examined thirty five case studies (developmental history, diagnostic assessment, and debriefing interview) of children who presented to the child, adolescent and family unit following traumatic incidents.	A measure of exposure to DA was not included. Trauma symptoms were reported following exposure to a number of traumatic events in combination (trauma symptoms following exposure to DA were not reported).
Smith, J., Bertheisen, D., & O'Connor, I. (1997). Child adjustment in high conflict families. <i>Child: Care, Health and Development</i> , 23 (2), 113-133.	Examined how witnessing parental violence and both being a victim and observer of physical abuse affect children's development and whether the children's responses to parental violence, the quality of parent-child relationship and the impact of violence on maternal parenting style were associated with the children's adjustment after parental separation.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included or measured as part of child outcomes.
Spilsbury, J.C., Belliston, L., Drotar, D., Drinkard, A., Kretschmar, J., Creedon, R., Flannerry, D.J., & Friedman, S. (2007). Clinically significant trauma symptoms and behavioural problems in a community based sample of children exposed to DV. <i>Journal of Family Violence</i> , 22, 487-499. doi: 10.1007/s10896=007-9113-z.	Examined the associations between characteristics of DA incidents and levels of trauma symptoms and behavioural problems in children.	A measure of exposure to DA was not included. Instead, it was noted whether children had seen/heard an event and been victimised, seen/heard event only or saw the aftermath of the event only. Trauma symptoms were not

		reported in relation to exposure to DA but in relation to specific characteristics of DA events.
Stein, B.D., Zima, B.T., Elliott, M.N., Burnam, A.M., Shahinfar, A., Fox, N.A., & Leavitt, L.A. (2001). Violence exposure among school-age children in foster care: relationship to distress symptoms. <i>Journal of the American Academy of Child and Adolescent Psychiatry</i> , 40 (5), 588-594.	Examined the nature of violence exposure and the relationship between violence exposure and distress symptoms among children in foster care.	A measure of exposure to DA was not included. Violence exposure in this study referred to community violence not DA.
Steiner, H., Garcia, I.G., & Matthews, Z. (1997). Posttraumatic stress disorder in incarcerated juvenile delinquents. <i>Journal of the American Academy of Child and Adolescent Psychiatry</i> , 36 (3), 357.	Examined the prevalence of posttraumatic stress disorder and personality characteristics in juvenile delinquents.	Did not included a measure of exposure to DA; this was not assessed.
Sternberg, K.J., Lamb, M.E., Greenbaum, C., Cicchetti, D., Dawud, S., Cortes, R.M., Krispin, O., & Lorey, F. (1993). Effects of domestic violence on children's behaviour problems and depression. <i>Developmental Psychology</i> , 29 (1), 44-52.	Examined the effects of DA on children's behaviour problems and depression.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included/ measured as part of outcomes.
Stimmel, M.A., Cruise, K.R., Weiss, R., & Ford, J.D. (2014). Trauma exposure, post-traumatic stress disorder symptomatology and aggression in male juvenile offenders. <i>Psychological Trauma: Theory, Research, Practice and Policy</i> , 6 (2), 184-191.	Examined PTSD following trauma experience and the link between PTSD and patterns of aggression in male juvenile offenders	A measure of exposure to DA was not included. Various types of trauma's were assessed (community violence, seeing a dead body, bad accident, painful or frightening medical experience, sexual abuse, child maltreatment, witnessing family violence). Trauma symptoms were reported in response to the combination of all trauma types assessed, not specific types (trauma symptoms following exposure to DA were not reported)
Street, A.E., King, L.A., King, D.W., & Riggs, D.S. (2003). The associations among male-perpetrated violence, wives psychological distress and children's behavior problems: A structural equation modelling analysis <i>Journal of Comparative Family Studies</i> , 34 (1), 23-40.	Examined family functioning, family violence, women's psychological distress and child behaviour problems to gain an understanding of relationships among marital violence and family functioning.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included/ assessed as part of outcomes.
Sugar, J., & Ford, J.D. (2012). Peritraumatic reactions and posttraumatic stress disorder in psychiatrically impaired youth. <i>Journal of traumatic Stress</i> , 25, 41-49. doi: 10.1002/jts.21668.	Examined contributions of peri-traumatic dissociation, emotional distress and arousal to current PTSD severity after accounting for the	Various events were assessed; child maltreatment; physical, emotional, sexual abuse and neglect, family violence, community

	effects of gender, trauma history, trait dissociation and psychopathology (attention-deficit/hyperactivity disorder and depression).	violence and accidental trauma. Outcomes were reported in combination for all events (trauma symptoms following exposure to DA were not reported).
Sullivan, C.M., Juras, J., Bybee, D., Nguyen, H., & Allen N. (2000). How children's adjustment is affected by their relationship to their mother's abuser. <i>Journal of Interpersonal Violence</i> , 15 (6), 587-602.	Examined whether the abusers relationship to the child (biological father/ step father/ father figure/ non-father figure) is a variable in understanding children's adjustment.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included.
Suarez-Morales, L., Mean, M., Schlaudt, V.A., Santisteban, D.A. (2016). Trauma in Hispanic youth with psychiatric symptoms: Investigating gender and family effects. <i>Psychological Trauma: Theory, Research, Practice and Policy</i> . http://dx.doi.org/10.1037/tra0000216 .	Examined the rate of traumatic events, differences in outcomes and the effects gender, family functioning and trauma have on psychopathology and PTSD symptoms.	A measure of exposure to DA was not included. Measure disagreements between parents not abuse. Trauma symptoms following exposure to DA were not reported.
Thompson, T., & Massat, C.R. (2005). Experiences of violence, post-traumatic stress, academic achievement and behaviour problems of Urban African American children. <i>Child and Adolescent Social Work Journal</i> , 22 (5-6), 367-393. doi: 10.1007/s10560-005-0018-5.	Examined the frequency of family violence, community violence, sibling violence, child maltreatment and levels of post-traumatic stress, academic achievement and behaviour problems in African-American children.	Experiences were assessed and outcomes reported in combination for all maltreatment types, not specifically for maltreatment type (trauma symptoms following exposure to DA were not reported)
Tull, M.T., Jakupcak, M., McFadden, M.E., & Roemer, L. (2007). The role of negative affect intensity and the fear of emotions in post-traumatic stress symptom severity among victims of childhood interpersonal violence. <i>The Journal of Nervous and Mental Disease</i> , 195 (7), 580-58. doi: 10.1097/NMD.0b013e318093ed5f.	Examined the influence of negative affect intensity and fear of emotions in post-traumatic symptom severity among childhood interpersonal violence victims.	A measure of exposure to DA was not included. Interpersonal violence in this study referred to childhood physical and sexual abuse. The participants were adults over the age of eighteen years old.
Tummala-Narra, P., Li, Z., Wang, Y., & Liu, T. (2014). Violence exposure and mental health among adolescents: The role of ethnic identity and help seeking. <i>Psychological Trauma: Theory, Research, Practice and Policy</i> , 6 (1), 8-24.	Examined the relationship between violence exposure and mental health among adolescents of diverse ethnic and racial backgrounds in an urban area.	A measure of exposure to DA was not included. Exposure to violence in the home and community was assessed and outcomes reported in combination (trauma symptoms following exposure to DA were not reported).
Turner, H.A., Finkelhor, D., & Ormrod, R. (2010). Poly-victimisation in a national sample of children and youth. <i>American Journal of Preventative Medicine</i> , 38 (3), 323-330. doi: 10.1016/j.amepre.2009.11.012.	Examined the relationship between children's lifetime exposure to multiple victimisation types, "polyvictimisation" and trauma symptomatology.	A measure of exposure to DA was not included. DA was assessed with two questions as part of an assessment of polvictimisation which included crime, maltreatment, victimisation

		by peers and siblings, sexual victimisation, internet victimisation. Trauma symptoms were reported in response to polyvictimisation, not specifically for DA (trauma symptoms following exposure to DA were not reported).
Turner, H.A., Finkelhor, D., Ormrod, R., Hamby, S., Leeb, R.T., Mercy, J.A., & Holt, M. (2012). Family context, victimisation and child trauma symptoms: Variations in safe, stable and nurturing relationships during early and middle childhood. <i>American Journal of Orthopsychiatry</i> , 82 (2), 209-219. doi: 10.1111/j.19390025.2012.00147.x.	Examined variations in "safe, stable and nurturing" relationships including several forms of family perpetrated victimisation and associations with child trauma symptoms.	A measure of exposure to DA was not included. Trauma symptoms following exposure to DA were not directly assessed/ reported in this study.
Turner, H.A., Finkelhor, D., Hamby, S.L., & Shattuck, A. (2013). Family structure, victimisation and child mental health in a nationally representative sample. <i>Social Science and Medicine</i> , 87, 39-51.	Compared rates of child victimisation (maltreatment, assault, peer victimisation, property crime, witnessing family violence and community violence) across three family structure types (two biological or adoptive parents, single parent, step parent/cohabiting) and considered whether certain risk factors explain family structure variations in victimisation and differences in distress symptom levels.	Trauma symptoms were not analysed in response to DA exposure but as a result of overall victimisation (trauma symptoms following exposure to DA were not reported)
Usta, J., Farver, J.M., & Danachi, D. (2012). Child maltreatment: The Lebanese children's experiences. <i>Child: Care, Health and Development</i> , 39 (2), 228-236. doi: 10.1111/j.13652214.2011.01359.x.	Examined the prevalence, risk factors and consequences associated with child maltreatment in the home.	A measure of exposure to DA was not included. DA was assessed with two questions, "1. have you seen adults in your home shouting or arguing in a way that frightened you? 2. hit, kick, slap, punch each other physically in other ways? (Not specific to DA/ violence between caregivers).
Valjee, S.R., & Collings, S.J. (2015). The meaning of developmental trauma: Validation of a brief screen for developmental trauma appraisals. <i>South African Journal of Psychology</i> , 1-13. DOI: 10.1177/0081246315617888.	Examined exposure to violence and PTSD in adolescents in order to develop and validate a brief screening measure for developmental trauma appraisals.	A measure of exposure to DA was not included. Trauma symptoms in response to specific events were not reported. Trauma symptoms were reported in combination following exposure to any event.

VanDeMark, N.R., Russell, L.A., O'Keefe, M., Finkelstein, N., Noether, C.D., & Gampel, J.C. (2005). Children of mothers with histories of substance abuse, mental illness and trauma. <i>Journal of Community Psychology</i> , 33 (4), 445-459. doi:10.1002/jcop.20062.	Examined a sample of children who had been exposed to DA, frequent child welfare involvement and residential instability.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included/measured as part of outcomes.
Villodas, M.T., Cromer, K.D., Moses, J.O., Litrownik, A.J., Newton, R.R., & Davis, I.P. (2016). Unstable child welfare placements and early adolescent physical and mental health: The roles of adverse childhood experiences and post-traumatic stress. <i>Child Abuse and Neglect</i> , 62, 76-88.	Examined living situations of youth in long-term placements and whether or not adverse childhood experiences and post-traumatic stress mediated the association between unstable placement patterns and physical and mental health problems during late childhood and early adolescence.	Although trauma symptoms and family violence were both assessed violence was asked about in the context of, 'family members' and was not specific to caregivers. Family violence referred to a number of potentially traumatic events and outcomes reported for combination of all traumatic events and were not specific for DA.
Voisin, D.R., Neilands, T.B., & Hunnicutt, S. (2011). Mechanisms linking violence exposure and school engagement among African American adolescents: Examining the roles of psychological problem behaviours and gender. <i>American Journal of Orthopsychiatry</i> , 81 (1), 61-71. doi:10.1111/j.1939-0025.2010.01072.x.	Examined whether the relationship between violence exposure and school engagement is mediated by psychological problem behaviours.	Trauma symptoms were not analysed in response to exposure to DA but as a mediator between exposure to violence and school engagement (trauma symptoms following exposure to DA were not reported).
von Klitzing, K., Perren, S., Klein, A.M., Stadelmann, S., White, L.O., Groeben, M., Holsboer-Trachsler, E., Brand, S., & Hatzinger, M. (2012). The interaction of social risk factors and HPA axis dysregulation in predicting emotional symptoms of five and six-year-old children. <i>Journal of Psychiatric Research</i> , 46 (3), 290-297.	Examined the direct effects of family environment, peer victimisation and HPA axis dysregulation on the level of emotional symptoms in a community sample of children.	A measure of exposure to DA was not included. A measure of C and A trauma symptoms/ PTSD diagnosis was not included as part of the emotional symptoms assessed.
Ward, C.L., Flisher, A.J., Zissis, C., Muller, M., & Lombard, C. (2001). Exposure to violence and its relationship to psychopathology in adolescents. <i>Injury Prevention</i> , 7, 297-301.	Examined prevalence of adolescents' exposure to violence and symptoms of trauma, depression and anxiety.	Measure was not specific to DA. Trauma symptoms were reported for "witness of known violence" which included witnessing violence perpetrated by someone known to the adolescent in the home but was not specific to caregivers as any family member/stranger was included.

Wherry, J.N., Medford, E.A., & Corson, K. (2015). Symptomatology of children exposed to domestic violence. <i>Journal of Child and Adolescent Trauma</i> , 8, 277-285. doi: 10.1007/s40653-015-0048-x.	Examined behavioural, emotional and trauma symptoms in children exposed to DA and child maltreatment.	A measure of exposure to DA was not included. Exposure to DA was assessed with questions which assessed violence to family members and not specifically caregivers.
Wolfe, D.A., & McGee, R. (1994). Dimensions of child maltreatment and their relationship to adolescent adjustment. <i>Development and Psychopathology</i> , 6, 165-181.	Examined child maltreatment and adolescent adjustment.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included or measured as part of adolescent adjustment.
Wong, S.S., Kletter, H., Wong, Y., & Carrion, V.G. (2013). A prospective study on the association between caregiver psychological symptomatology and symptom clusters of pediatric posttraumatic stress disorder. <i>Journal of Traumatic Stress</i> , 26, 385-391. doi:10.1002/jts.21816.	Examined the influence of caregiver psychological symptoms on post-traumatic stress disorder symptoms in traumatised children.	Children's PTSD symptoms were reported in relation to their caregivers psychological symptoms, not DA (trauma symptoms following exposure to DA were not reported).
Yoon, S., Steigerwalk, S., Holmes, M.R., & Perzynski, A.T. (2016). Children's exposure to violence: The underlying effect of posttraumatic stress symptoms on behaviour problems. <i>Journal of Traumatic Stress</i> , 29, 72-79.	Examined the role of PTS symptoms as a mediator of the relationship between exposure to violence in the home and children's behaviour problems.	Trauma symptoms were not reported as an outcome of witnessing violence, internalising and externalising symptoms were. Trauma symptoms were analysed as a moderator of the relationship between witnessing violence and internalising and externalising symptoms.
Zarling, A.L., Taber-Thomas, S., Murray, A., Knutson, J.F., Lawrence, E., Valles, N., DeGarmo, D.S., & Bank, L. (2013). Internalising and externalising symptoms in young children exposed to intimate partner violence: Examining intervening processes. <i>Journal of Family Psychology</i> , 27 (6), 945-955.	Examined mediators (emotional dysregulation, children's appraisals, maternal psychological functioning and harsh discipline) in the link between exposure to DA and poor child outcomes.	A measure of C and A trauma symptoms/ PTSD diagnosis was not included or measured as part of child outcomes.
Zerk, D.M., Mertin, P.G., & Proeve, M. (2009). Domestic violence and maternal reports of young children's functioning. <i>Journal of Family Violence</i> , 24, 423-432. doi:10.1007/s10896-009-9237-4.	Examined the prevalence of internalising, externalising and trauma symptoms in children who had been exposed to DA and the relationship between maternal stress and child trauma symptoms.	A specific measure of C and A trauma symptoms/ PTSD diagnosis was not included. Children in this study were pre-school age (mean age 3 years).
Zinzow, H.M., Ruggiero, K.J., Resnick, H., Hanson, R., Smith, D., Saunders, B., & Kilpatrick, D. (2009). Prevalence and mental health correlates of witnessed parental and community violence in a national sample of adolescents.	Examined the prevalence of various forms of witnessed violence and examined witnessed community and domestic violence in relation to	A measure of exposure to DA was not included. Exposure to DA was assessed with five single questions.

<i>Journal of Child Psychology and Psychiatry</i> , 50 (4), 441-450. doi: 10.1111/j.14697610.2008.02004.x	adolescent psychiatric symptomatology.	
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Appendix 1.6

Data Extraction Tool

NUMBER OF ARTICLE/ PERSON EXTRACTING DATA	
TITLE/AUTHOR/CITATION	
COUNTRY OF STUDY	
FUNDING/CONFLICT OF INTEREST	
RESEARCH QUESTION	
RESEARCH DESIGN	
DEFINITION OF DA AND AIMS OF THE STUDY	
SETTING OF STUDY/POPULATION e.g. community, clinical, shelter	
INCLUSION CRITERIA	
EXCLUSION CRITERIA	
POWER CALCULATION	
RECRUITMENT PROCEDURE	

<p>PARTICIPANTS:</p> <p>-NUMBER APPROACHED</p> <p>-NUMBER ELIGIBLE TO PARTICIPATE</p> <p>-NUMBER WHO DECLINED TO PARTICIPATE</p> <p>-NUMBER DROPPED OUT</p> <p>-NUMBER OF PARTICIPANTS INCLUDED IN THE ANALYSIS (SAMPLE SIZE)</p>	
<p>PARTICIPANTS:</p> <p>-AGE (MEAN AND RANGE)</p> <p>-GENDER</p> <p>-RACE</p> <p>-SOCIOECONOMIC STATUS</p> <p>-ADDITIONAL PARTICIPANT DEMOGRAPHICS REPORTED</p>	
METHOD SUMMARY	
MEASUREMENT TOOL DOMESTIC ABUSE/RELIABILITY/ VALIDITY/WHO REPORTED	
MEASUREMENT TOOL TRAUMA/RELIABILITY/VALIDITY WHO REPORTED	
<p>CONFOUNDING VARIABLES REPORTED/ASSESSED (e.g. duration, frequency, severity, time since exposure, treatment for trauma/support services since exposure, perpetrator's relationship to the child, child protection concerns, parental substance abuse, parental</p>	

mental health problems, child witness to other traumatic events e.g. road traffic accident	
STATISTICAL ANALYSIS USED	
STATISTICAL RESULTS: MEAN, STANDARD DEVIATION, EFFECT SIZE, CONFIDENCE INTERVALS, p- VALUE	
CONCLUSIONS/CLINICAL IMPLICATIONS	
RISK OF BIAS/ GENERALISABILITY/LIMITATIONS	

Appendix 1.7
Quality Criteria

Quality Criteria for Systematic Review

The research question was established before conducting the review: **Do children and adolescents who are exposed to domestic abuse develop trauma symptoms?**
A systematic review.

	Quality Criteria
1	Definition of Domestic Abuse.
2	Recruitment Strategy and Representativeness of the Population of Interest.
3	Satisfactory Participation and Attrition Rates.
4	Participant Characteristics and Sample Representativeness.
5	Reliability and Validity of the Measure of Exposure to Domestic Abuse and Reporter of Data.
6	Reliability and Validity of the Measure of Child and Adolescent Trauma Symptoms/ PTSD Diagnosis and Reporter of Data.
7	Power.
8	Statistical Analysis.
9	Measurement of Confounding Variables.
10	Degree of Bias Introduced from Study Limitations.

SCORING CATEGORIES FOR EACH QUALITY CRITERIA:

- Well covered (2 points)
- Adequately addressed (1 point)
- Poorly addressed (0 points)

OVERALL ASSESSMENT OF THE STUDY:

- High Quality: Points out of 20 converted into a percentage. Studies scoring over 71% categorised as high quality.
- Acceptable: Points out of 20 converted into a percentage. Studies scoring 41- 70% categorised as acceptable quality.
- Low quality: Points out of 20 converted into a percentage. Studies scoring <40% categorised as low quality.

Operationalisation of Quality Criteria

1 – Definition of Domestic Abuse.

Well covered 2 points	The definition of DA clearly represents the definition of DA identified from the wider literature base (repeated physical, psychological, sexual or financial abuse based on a variety of coercive control tactics) as opposed to marital conflict or mutual couple violence.
Adequately addressed 1 point	The definition of DA is less clear compared to a category of well covered and/ or it is thought that the majority of participants have experienced DA that represents the definition of DA identified from the wider literature base (repeated physical, psychological, sexual or financial abuse based on a variety of coercive control tactics) as opposed to marital conflict or mutual couple violence.
Poorly addressed 0 points	The definition of DA is not clear and/ or it is thought that the majority of participants have not experienced DA as defined from the wider literature base (repeated physical, psychological, sexual or financial abuse based on a variety of coercive control tactics) but have experienced marital conflict or mutual couple violence or other difficulties within their relationship with an intimate partner which are not representative of DA.
Notes	

2 – Recruitment Strategy and Representativeness of the Population of Interest.

Well covered 2 points	The recruitment strategy and/or rationale for inclusion and exclusion criteria are acceptable and ensure that the population of interest (children and adolescents exposed to domestic abuse) is well represented.
Adequately addressed 1 point	The recruitment strategy and/or rationale for inclusion and exclusion criteria appear acceptable and the population of interest (children and adolescents exposed to domestic abuse) was likely represented, although there may be minor concerns of bias in representation.
Poorly addressed 0 points	The recruitment strategy and/or rationale for inclusion and exclusion criteria appear unacceptable as the population of interest (children and adolescents exposed to domestic abuse) was likely not represented. It is likely that this has resulted in bias.
Notes	

3 – Satisfactory Participation and Attrition Rates.

Well covered 2 points	The number of potential participants approached who met inclusion criteria, declined to participate or number who withdrew is clear. The number of those who agreed to participate (sample size) is clear. The participation and attrition rates are thought not to affect the representativeness of the population of interest (children and adolescents exposed to domestic abuse) and bias is unlikely.
Adequately addressed 1 point	The number of participants approached who met inclusion criteria and declined to participate or who withdrew are not clear. The number of participants who agreed to participate (sample size) is clear. The participation and attrition rates are thought to have affected the representativeness of the population of interest (children and adolescents exposed to domestic abuse) to some degree and may have introduced some minor bias but not thought to have significantly altered results.
Poorly addressed 0 points	The number of participants approached who met inclusion criteria and declined to participate and the number who withdrew from the study is not clear or the number of participants participating in the study is not clear. The participation and attrition rates are thought to have affected the representativeness of the population of interest (children and adolescents exposed to domestic abuse) and likely introduced bias.
Notes	

4 – Participant Characteristics and Sample Representativeness.

Well covered 2 points	The characteristics of the participants included in the study (e.g. age, gender) are representative of the population of interest (children and adolescents exposed to domestic abuse) and bias is unlikely.
Adequately addressed 1 point	The characteristics of the participants included in the study are representative of the population of interest (children and adolescents exposed to domestic abuse) to some degree and may have introduced some minor bias.
Poorly addressed 0 points	The characteristics of the participants included in the study are thought to have affected the representation of the population of interest (children and adolescents exposed to domestic abuse) and likely introduced bias.
Notes	

5 – Reliability and Validity of the Measure of Exposure to Domestic Abuse and Reporter of Data.

Well covered 2 points	The domestic abuse measure used to assess exposure has robust or reasonable validity and reliability for this population. Reporting on the child's exposure is sought from an adult well known to the child so it is likely that the information provided will be accurate or where age appropriate the child is asked to report on their own exposure. Both criteria to be met for well covered.
Adequately addressed 1 point	The domestic abuse measure used to assess exposure has robust or reasonable validity and reliability for this population. The person reporting on the child's exposure is well known to the child so it is likely the information provided will be accurate. One of the two criteria to be met for adequately addressed.
Poorly addressed 0 points	The domestic abuse measure used to assess exposure has questionable/no available validity or reliability for this population. The person who reported on the child's exposure is unclear/not reported or how well they know the child is questionable and data are likely to have inaccuracies as a result.
Notes	

6 – Reliability and Validity of the Measure of Child and Adolescent Trauma Symptoms/PTSD Diagnosis and Reporter of Data.

Well covered 2 points	The trauma symptoms/PTSD diagnosis measure used has robust/reasonable validity and reliability for this population. The person reporting on trauma symptoms/PTSD diagnosis is stated. Reporting is sought from an adult well known to the child so it is likely that the information provided will be accurate and where age appropriate the child is asked to report on their own symptoms. Both criteria to be met for well covered.
Adequately addressed 1 point	The trauma symptoms/PTSD diagnosis measure used to assess symptoms has robust/ reasonable validity and reliability for this population. The person reporting on the child's trauma symptoms/PTSD diagnosis is well known to the child so it is likely the information provided will be accurate. One of the two criteria to be met for adequately addressed.
Poorly addressed 0 points	The trauma symptoms/PTSD diagnosis measure used to assess exposure has questionable/no available validity or reliability for this population. The person who reported on the child's trauma symptoms/PTSD diagnosis is unclear/not reported or how well they know the child is questionable and data are likely to have inaccuracies as a result.
Notes	

7 – Power.

Well covered 2 points	A power calculation (based on accurate effect sizes reported in the literature) is reported or calculated by the author of this systematic review and the study is sufficiently powered.
Adequately addressed 1 point	A power calculation (based on accurate effect sizes reported in the literature) is reported or calculated by the author of this systematic review and although power is not achieved, this is acknowledged by the author/ it is at a level that is likely to not have introduced significant error.
Poorly addressed 0 points	A power calculation is unreported or reported but inaccurate or once calculated by the author of this systematic review it is found that sufficient power has not been achieved with likely error introduced.
Notes	

8 – Statistical Analysis.

Well covered 2 points	The statistical analyses used in the study are appropriate in order to answer the research question/ aims of the study and data are analysed accurately. The reviewer has confidence in the findings based on the statistics.
Adequately addressed 1 point	The statistical analyses used in the study are appropriate to answer the research question/aims of the study although other statistical tests may have been more appropriate or there may have been some minor inaccuracies in how data were analysed. It is thought that the minor inaccuracies would not have changed the overall results and conclusions of the study but improvements could be made.
Poorly addressed 0 points	The statistical analyses used in the study are inadequate or inaccurate to answer the research question/aims of the study and it is likely that results and conclusions are inaccurate as a result.
Notes	

9 – Measurement of Confounding Variables.

(confounding variables may be the severity, frequency and duration of DA, time since exposure to domestic abuse (DA), whether the child has received treatment for trauma/support services/therapy since witnessing the abuse, relationship of the perpetrator to the child, child protection concerns/ including whether the child was a victim of abuse themselves, parental substance abuse, parental mental health problems, whether the child has been exposed to any further traumatic events such as road traffic accidents).

Well covered 2 points	Key confounding variables have been recognised/addressed in the measurement of variables, analysis of data or in the interpretation of results.
Adequately addressed 1 point	Some confounding variables have been recognised/addressed in the measurement of variables, analysis of data or in the interpretation of results but some important ones are missing. It is likely not to have made the study findings inaccurate but may have influenced them to some degree.
Poorly addressed 0 points	Confounding variables have either not been addressed or too few have been addressed in the study that it is likely to have had a significant effect on the study findings.
Notes	

10 – Degree of Bias Introduced from Study Limitations.

Well covered 2 points	Conclusions are reported while taking into account the limitations of the research and it is thought that the study limitations have not introduced bias and affected the results.
Adequately addressed 1 point	Conclusions are reported while taking into account the limitations of the research to some extent. Overall these areas could be discussed more fully compared to a category of well covered. The study limitations are thought to have introduced some minor bias.
Poorly addressed 0 points	Conclusions are not addressed or conclusions reached that do not clearly follow from the results. Limitations are not addressed or addressed in a limited way. The study limitations are thought to have introduced bias that has affected the results.
Notes	

CHAPTER TWO

EMPIRICAL STUDY

This chapter contains an empirical study investigating trauma symptoms in women and children who have been exposed to domestic abuse. This paper was written for submission to the *Journal of Family Violence*, which uses the APA style of referencing. The guidelines for authors are provided in Appendix 1.1.

EMPIRICAL STUDY ABSTRACT

Title: Investigating Predictors of Trauma Symptoms in Children and Adolescents Exposed to Domestic Abuse and the Relational Nature of Trauma

Introduction: Domestic abuse has been described as a serious public health problem due to high prevalence, high financial cost to society and detrimental impact on victims and their children. A consistent but variable relationship has been reported between exposure to domestic abuse and trauma symptoms in children and adolescents. This study investigated predictors of trauma symptoms and the relational nature of trauma in women and children aged five to eighteen years who had been exposed to domestic abuse, to increase understanding of risk and resilience.

Method: This cross-sectional study recruited 84 women from community voluntary and council agencies supporting victims of domestic abuse and a Child and Adolescent Mental Health Service. Women completed questionnaires reporting on their experiences of abuse, their symptoms of depression, anxiety, stress and trauma and their child's trauma symptoms in an interview format. A correlation analysis investigated the relationship between exposure to domestic abuse and trauma symptoms in women and their children. A regression analysis investigated predictors of trauma symptoms in children and adolescents exposed to domestic abuse and whether maternal trauma symptoms moderated the relationship between exposure to domestic abuse and child trauma symptoms.

Results: Women reported experiencing a range of domestic abuse, although most had experienced chronic and severe physical and psychological abuse. Many had left the abusive relationship and others were experiencing ongoing abuse. The majority of children had lived with domestic abuse since birth or abuse started during their preschool years. Most children had been present during incidents of abuse. There was a significant relationship between exposure to physical and psychological abuse and trauma symptoms in women and their children. Severity of threats and physical abuse, annual family income and severity of maternal trauma symptoms were significant predictors of child trauma symptoms, explaining a large amount of the variance. Maternal trauma symptoms were both significantly correlated with and a significant predictor of child trauma symptoms, supporting the relational nature of trauma in this population. The interaction was not significant, and the relationship between domestic abuse and child trauma symptoms was present at low, medium and high levels of maternal trauma symptom severity.

Conclusion: The majority of children in this sample were experiencing trauma symptom severity within the range of clinical concern, highlighting the importance of assessment and evidence based intervention. The relational nature of trauma symptoms was supported in mothers and their children exposed to domestic abuse indicating that treatment should be family based and delivered concurrently to mothers and their children

1. Introduction

Domestic Abuse

Domestic abuse (DA) has been described as a serious public health issue due to high prevalence, high financial cost to society and the detrimental impact on victims and their children (Black et al., 2011; Home Office, 2005, 2006; MacDonell, 2012; McDonald, Jouriles, Ramisetty-Mikler, Caetano, & Green, 2006; National Institute for Health and Care Excellence (NICE), 2016). Children's experience of DA can involve direct or indirect exposure to threats of harm and suicide, stalking, physical, emotional, sexual and financial abuse, fatal assaults with knives and guns, observing victims physical injuries and psychological distress, the abuse of family pets, destruction to property, caregiver arrest and may involve children calling emergency services, accompanying victims for medical treatment, being indirectly caught up and accidentally harmed and being forced to spy on the victim and participate in abuse (Carpenter & Stacks, 2009; Holden, 2003; Jaffe, Wolfe, & Wilson, 1990). Reports suggest that children directly witness 80-95% of incidents (Fantuzzo, Fusco, & Mohr, 2007; Fusco & Fantuzzo, 2009), 50% verbally intervene and 25% physically intervene during abuse (Edleson, Mbilinyi, Beeman, & Hagemeister, 2003; Gewirtz & Medhanie, 2008; Jarvis, Gordon, & Novaco, 2005).

Impact of Domestic Abuse on Children

The high prevalence and nature of exposure is concerning and important to highlight because DA has been found to negatively affect children's social, emotional, behavioural, cognitive, physical and biological functioning (Schechter & Willheim, 2009). DA has been described as a chronic stressor in the lives of children (Graham-Bermann, DeVoe, Mattis, Lynch, & Thomas, 2006; Graham-Bermann, Lynch,

Banyard, DeVoe, & Halabu, 2007). Exposure to DA in childhood has been found to alter normal brain development through excess activation of neural systems related to threat responses (Perry, 2001). These difficulties manifest through changes in cognition, behaviour and emotion which may negatively affect developmental tasks, socialisation, peer relationships and educational achievement, affecting individuals for many years into adulthood (Margolin & Gordis, 2000).

Theoretically, exposure to violent exchanges between caregivers is highly traumatic due to the importance of the caregiver in attachment, children's reliance on parental care and the home no longer being a safe, secure space, with potential for children to experience overwhelming fear, uncertainty and danger (Appel & Holden, 1998; Crimmins, Cleary, Brownstein, Spunt, & Warley, 2000; Graham-Bermann et al., 2008; Lang & Smith Stover, 2008; Lynch, 2003; Margolin & Vickerman, 2007; Miller, Howell, & Graham-Bermann, 2012; Osofsky, 1997; Rossman & Ho, 2000; Scheeringa & Zeanah, 2001). Two of four published meta-analyses investigating outcomes in children exposed to DA looked at trauma symptoms. Evans, Davies, and DiLillo (2008) found a large average effect size for the relationship between exposure to DA and child trauma symptoms and Chan and Yeung (2009) found a moderate average effect size for the relationship between exposure to DA and post-traumatic stress disorder (PTSD) in children. However, both sets of authors advised caution in interpreting findings due to results being based on a limited number of studies.

Individual research studies report a consistent but variable relationship between child exposure to DA and PTSD diagnosis, with estimates suggesting that 13% (Graham-Bermann & Levendosky, 1998), 19% (McCloskey & Walker, 2000), 20% (Mertin &

Mohr, 2002), 25% (Graham-Bermann et al., 2006), 34% (McDonald et al., 2016), 56% (Lehmann, 1997), 67% (Georgsson, Almqvist, & Broberg, 2011), and 95% (Kilpatrick & Williams, 1997) of children exposed to DA develop PTSD. A longitudinal study of children aged one to seven years reported PTSD was related to accumulated DA over time (Levendosky, Bogat, & Martinez- Torteya, 2013).

Studies investigating trauma symptoms have reported elevated levels of traumatic stress symptoms (Lehman & Ellison, 2001; Rossman, 2000), a positive association between DA and traumatic stress symptoms severity (Boeckel, Wagner, & Grassi-Olviera, 2017), 40% of children scoring moderate traumatic stress symptom severity, 50% severe and 10% very severe (Jarvis et al., 2005) and that the majority of children exposed to DA report symptoms of traumatic stress (Graham-Bermann et al., 2006). Trauma symptoms have been reported in children exposed to DA as young as twelve months old (Bogat, DeJonghe, Levendosky, Davidson, & von Eye, 2006). Children who have been exposed to DA report significantly higher trauma symptoms when compared to groups of control children who have not been exposed (Boeckel et al., 2017; Saltzman, Holden, & Holahan, 2005; Tailor, Stewart-Tufescu, & Piotrowski, 2015). Although a consistent relationship has been reported, not all children who are exposed to DA develop trauma symptoms and other predictor, confounding and moderating variables may be involved that increase negative impact and risk or promote resilience. Due to the small number of studies available, previous meta-analyses were unable to investigate these additional variables. Individual studies have investigated some of these variables, although conclusions are limited and findings have been inconsistent.

Parental Mental Health

Attachment theory suggests that during times of uncertainty, stress and fear

children seek protection, support and contact with a secure parental base (Bowlby, 1969, 1982 as cited in Muller, Goebel-Fabbri, Diamond, & Dinklage, 2000). A child's relationship with a caring, positive parent has been described as their most protective resource (Osofsky, 1999). Victims of DA may not be able to offer their children security and protection (Bedi & Goddard, 2011; Dutton, 2000; Margolin & Vickerman, 2007), and the presence of DA has been associated with insecure attachment styles in children (Levendosky, Huth-Bocks, Semel, & Shapiro, 2002). Studies investigating parenting in victims of DA have found inconsistent results with some finding no change, some finding negative effects and others finding that mothers compensate for violence with better parenting, making considerable effort to protect and support their children to try and reduce the negative impact of DA (Levendosky et al., 2003; Margolin, Gordis, Medina, & Oliver, 2003; Smith, Bertheisen, & O'Connor, 1997). Whether non-violent caregivers display parenting stress or are able to compensate for DA with positive parenting may be related to the impact of DA on their mental health (Levendosky & Graham-Bermann, 2001; Pinto, Correia-Santos, Levendosky, & Jongenelen, 2016).

Although victims of DA have been found to experience a number of psychological problems, PTSD and trauma symptoms are one of the most common (Coid et al., 2003). Many studies report female victims of DA are at high risk of developing trauma outcomes (Campbell & Lewandowski, 1997; Cascardi, O'Leary, & Schlee, 1999; Holtzworth-Munroe, Bates, Smutzler, & Sandin, 1997; Levendosky et al., 2004; Lilly & Graham-Bermann, 2009), with PTSD prevalence reported as 63.8%, compared to 1.3-12.3% in the general population (Golding, 1999). PTSD and trauma symptoms are associated with sleep disturbance, anger, avoidance, detachment, distress, fatigue and

difficulty concentrating (Cascardi et al., 1999; Saunders, 1994), conceptualised as an overall traumatic response explained by the chronic and severe nature of trauma associated with DA (Campbell & Lewandowski, 1997; Dutton, Kaltman, Goodman, Weinfurt, & Vankos, 2005; van der Kolk, Pelcovitz, Sunday, & Spinazzola, 2005), which may impact on attachment and parenting.

Symptom groups associated with PTSD that may interfere with parenting include; re-experiencing ongoing distress related to trauma, avoidance of external reminders, thoughts and feelings associated with the trauma, difficulties with negative cognitions and mood and arousal symptoms such as aggression, self-destructive behaviour and problems with sleep (American Psychiatric Association (APA), 2013; Symes, McFarlane, Fredland, Maddoux, & Zhou, 2016). In addition, PTSD is associated with substance abuse and depression (Lagdon, Armour, & Stringer, 2014). Presence of DA, depression and PTSD have been found to reduce women's ability to respond positively, sensitively and warmly, reduce availability, energy, time and ability to offer emotional support, increase irritability, impulsivity, emotional distance, verbal aggression and abusive behaviour (English, Marshall, & Stewart, 2003; Finkelstein et al., 2005; Goodman & Gotlib, 2002; Graham-Bermann & Levendosky, 1998; Holden, Stein, Ritchie, Harris, & Jouriles, 1998; Holt, Buckley, & Whelan, 2008; Kelleher et al., 2008; Levendosky, Huth-Bocks, Shapiro, & Semel, 2003; Margolin & Vickerman, 2007; Osofsky, 1999; Schechter et al., 2004).

A mother's availability and ability to provide nurture and support following exposure to trauma may be more important in child outcomes than direct exposure to the trauma (Lieberman, Chu, Van Horn & Harris, 2011). Higher quality maternal care has been associated with lower levels of adrenocortical arousal and reactivity (Hibel, Granger, Blair, & Cox, 2011; Kaplan, Evans, & Monk, 2008; Morelius, Nelson, &

Gustafsson, 2007; Pendry & Adam, 2007), regulation of heart rate and greater cortisol recovery during child and mother interaction (Albers, Riksen-Walraven, Sweep, & DeWeerth, 2008; Haley & Stansbury, 2003). In addition, parental reaction to trauma may be important; social learning theory (Bandura, 1969) states that parents are strong influential models in teaching appropriate and inappropriate behaviour to their children. Parents who experience symptoms such as distress and hyperarousal may model destructive and avoidant coping behaviours which could influence the child's adjustment post trauma (Cox, Kenardy, & Hendrikz, 2008). Parental ability to help children process trauma may influence outcomes as cognitive processing research suggests that the ability to talk through emotions and traumatic events helps process and reduce symptoms of intrusive thoughts and re-experiencing, improve recovery and adaptive functioning (Bernard-Bonnin, Hebert, Daignault, & Allard-Dansereau, 2008; Crimmins, Cleary, Brownstein, Spunt, & Warley, 2000; Kliwer, Murrelle, Mejia, de G, & Angold, 2001; Lepore, Silver, Wortman, & Wayment, 1996). Children often stop talking about traumatic events when they realise that doing so upsets their parent (Dyregrov & Yule, 2006). Children may also try to reduce their parent's distress by avoiding their own distress (Deblinger & Heflin, 1996). Mothers may avoid talking to their children about events in an attempt to try and protect them or because of their own distress (Dyregrov & Yule, 2006). In addition, children's distress may act as a post-traumatic reminder for caregivers (Schechter & Willheim, 2009) which may further reduce a child's opportunity to process trauma.

Overall, the impact of mental health difficulties on a mother's ability to restore a sense of safety, regulate children's emotions, attachment and parenting can influence how well a child manages distress and recovers or whether trauma symptoms develop following traumatic events (Cohen, Mannarino, Berlin, & Deblinger, 2000; Cox,

Kenardy, & Hendrikz, 2008; Dyregrov & Yule, 2006; Grahman-Bermann et al., 2006; Hanson et al., 2006; Mullender, Hague, Imam, Kelly, Malos, & Regan, 2002; Osofsky, 1995; Scheeringa & Zeanah, 2001; Trickey, Siddaway, Meiser-Stedman, Serpell, & Field, 2012).

Van Ee, Kleber, and Jongmans (2015) reviewed 72 studies investigating outcomes in parents who had been exposed to trauma and their children who had not been exposed. Parents with PTSD had impaired relationships, were less emotionally available and less sensitive towards their children compared to parents without PTSD. Parental PTSD symptoms predicted child internalising and externalising problems. Authors concluded that parental traumatisation can cause parenting limitations which may disrupt child development, although highlight that understanding between parent trauma and child outcomes is limited. This review did not included studies of parents exposed to DA and did not investigate child trauma outcomes.

The Relational Theory of PTSD (Scheeringa & Zeanah, 2001) proposed that children are more likely to display trauma symptoms when their mothers have trauma symptoms because of the importance of the relationship, emotional dependence on and physical proximity to their primary caregiver. The co-occurrence of trauma symptoms are thought to result because the adult's response to trauma is not well regulated and responses such as emotional withdrawal, reduced responsiveness to the child, responding in an overprotective or fearful way or remaining preoccupied with the traumatic event enhances child response by influencing the emotional and functional

availability of parents (Scheeringa & Zeanah, 2001). Secure attachment and positive interaction between a mother and infant are thought to be mechanisms that teach infants emotional regulation: for mothers who have trauma symptoms and difficulty regulating emotions it may be more difficult to help them regulate infant emotional distress, leaving the child stimulated and unregulated (Bogat, 2006; Schore, 1994, 2001).

In a review, Scheeringa and Zeanah (2001) found higher rates of maternal PTSD were associated with higher rates of PTSD in their children following traumatic events including fire (Brenton, Valla, & Lambert, 1993), child maltreatment (Famularo, Fenton, Kinscherff, Ayoub, & Barnum, 1994), maternal cancer (Pelcovitz et al., 1998), world trade centre bombing (Koplewicz et al., 1994), refugees from Cambodian conflict (Sack, Clarke, & Seeley, 1995) and child injury and hospital admission (Nugent, Ostrowski, Christopher, & Delahanty, 2007). The variable which best predicted severity of trauma symptoms was trauma involving threat to the children's caregiver (Scheeringa & Zeanah, 2001).

Lambert, Holzer, and Hasbun (2014) examined the relationship between parental PTSD symptoms and child outcomes following various traumatic events experienced by both parents and their children in a meta-analysis of forty two studies. A moderate effect size was found for the relationship between parental PTSD and child trauma symptoms, which was significantly stronger for interpersonal trauma compared with other types of events. Only one study in this review had investigated trauma outcomes in mothers and children who experienced DA. This unpublished dissertation found a significant relationship between maternal PTSD and child PTSD following exposure to DA.

Bogat, DeJonghe, Levendosky, Davidson, and von Eye (2006) investigated trauma

symptoms in 48 one year old children and their mothers. According to maternal report, a significant relationship was found between maternal and infant trauma symptoms, but only when the mother had experienced severe violence. Using a longitudinal design, Levendosky et al. (2013) found high co-occurrence of maternal and child trauma symptoms in children aged one to seven years. Both Bogat et al. (2006) and Levendoky et al. (2013) stated that their results were consistent with relational theory of PTSD (Scheeringa & Zeanah, 2001). Graham-Bermann et al. (2006) found that maternal PTSD predicted child trauma symptoms in Caucasian children aged five to thirteen years. In contrast, McCloskey et al. (1995) found that maternal trauma symptoms did not mediate the effects of DA on children's trauma symptoms beyond the effects of DA in children aged five to twelve years. Kilpatrick and Williams (1998) found that maternal and child trauma scores were not related following exposure to DA in children aged six to twelve years.

In summary, evidence for the relational nature of trauma exists subsequent to diverse traumatic experiences. Although theoretically a relationship between mother and child trauma symptoms may exist following exposure to DA, evidence is less clear as limited research exists and results are conflicted. Studies which have found evidence of a relationship between mother and child trauma symptoms have mainly included younger children, and it is unclear whether this relationship exists in older children in the context of DA.

The aims of this study were to investigate the relationship between DA and trauma symptoms in children aged five to eighteen years, investigate predictors of trauma symptoms to identify risk and resilience factors, and investigate whether maternal trauma symptoms moderate the relationship between exposure to DA and trauma symptoms to increase overall understanding of trauma symptoms in children

exposed to DA and investigate the relational nature of trauma symptoms to inform service provision and intervention plans.

2. Method

A research protocol which included a review of the literature, research question, methodology, sample size, analysis, project management, management of risks and knowledge exchange was developed (Appendix 2.1).

2.1 Ethics

This study was conducted in accordance with the code of Human Research Ethics specified by the British Psychological Society (BPS) (2010). Ethical approval was sought and granted by the East of Scotland Research Ethics Committee, NHS Research and Development Committee and a Project Registration Form and Document Checklist was submitted to the School of Health in Social Science, University of Edinburgh (Appendix 2.2).

2.2 Power

An *a priori* power calculation estimated that 162 participants were required in order to detect a medium effect size with 14 predictors at an alpha level of .05 and power of .80 ($N > 50 + 8m$, where m = number of predictors) (Green, 1991). A statistical power analysis programme G* Power (Faul, Erdfelder, Lang, & Buchner, 2007; Faul, Erdfelder, Buchner, & Lang, 2009), was also used to calculate *a priori* power. It was estimated that 135 participants were required in order to detect a medium effect size using multiple linear regression with 14 predictors at an alpha level of 0.05 and a power of .80 (Faul et al., 2009). Harris' (1985) formula for the absolute minimum number of participants suggests that for regression equations using six or more predictors, 10 participants per predictor is appropriate, which would indicate an absolute minimum of 140 participants. Therefore, the aim was to recruit between 135 and 162 participants to achieve sufficient power for this study.

2.3 Pilot

The research protocol, participant information sheets (Appendix 2.3), consent forms (Appendix 2.4) and questionnaires were piloted with three women who had experienced DA. Guidance was sought from these women and the recruiting agencies specialising in DA regarding acceptability and understanding. No necessary changes were identified before recruitment commenced.

2.4 Study Design

A quantitative cross-sectional design was used.

2.5 Procedure

Due to the sensitive nature of this research, issues including participant safety, confidentiality, consent and well-being were given high priority. Participants were recruited from voluntary and council agencies supporting victims of DA including Children Experiencing Domestic Abuse Recovery (CEDAR), Women's Aid, The Freedom Programme and Kingdom Abuse Survivors Project (KASP). Participants were also recruited from a Child and Adolescent Mental Health Service (CAMHS) including Clinical Psychology Service within the National Health Service (NHS).

Voluntary agency case workers, council case workers and individual therapists informed eligible participants of the study. If eligible and interested in receiving further information the staff member discussed the participant information sheet and, depending on the women's preference, the women made contact with the researcher or the women consented to the researcher receiving her contact details. Telephone contact was made with interested women where further information and questions were answered either over the phone or during a face to face interview,

depending on the women's preference. To ensure the safety and comfort of participants, interviews were conducted at their choice of venue, which was most commonly within the service they were attending. When the researcher met directly with the women, the participant information leaflet was read and discussed, examples of questions from the questionnaire pack were shared without the women responding and any additional questions participants asked were answered. The women had the option of participating, declining participation or having more time to think about whether they wished to participate where a follow up interview would be arranged if required. They were made aware that whether or not they chose to participate would not affect the treatment or services they received.

If women wished to participate once they had received full study information and had their questions answered, informed consent was obtained. Questionnaires took approximately thirty minutes to complete and were administered in an interview format to allow monitoring of potential distress, the need to take a break, the need to terminate the interview, ensure participant understanding, provide emotional support, debrief following the interview and make arrangements for any follow up and additional or alternate support when required. Interview format was also chosen to help women who may have had difficulty completing questionnaires such as those with reading or physical disability. Participants were aware of the anonymous nature of the study and that there were no right or wrong responses to encourage truthful responding. Women were also aware that they could decline any questions they did not wish to answer or that they could withdraw from the study at any time without it affecting any current or future service provision. Participants were made

aware of the limits of anonymity and confidentiality in relation to child protection concerns during the informed consent process. In the event that any ongoing child maltreatment was identified, local child protection policy procedures would be followed and agencies would provide participant details to enable reporting to occur. No suspected cases of ongoing child maltreatment were identified.

Participant eligibility was assessed through pre-determined inclusion and exclusion criteria with exclusions being made to reduce the likelihood of biased data (Table 2.1).

Women who were mothers of biological children aged five to eighteen years who had been living together since birth and who had historically or were currently experiencing domestic abuse were eligible for inclusion. Theoretically, it was the relational nature of mother and child trauma symptoms under investigation and including non-biological children (e.g. step-children, foster children, adopted children, children of relatives such as nieces, nephews, grandchildren or family friends) and children who had not consistently lived with their mother since birth would have been difficult to control for and may have influenced the investigation. Mothers of children who had a diagnosis of developmental delay, learning disability or autism spectrum disorder were excluded due to difficulties assessing trauma symptoms and the need for individual assessment of whether an alternative or additional tool was required. As the researcher did not meet with children directly, assessment of these factors was not possible. Mothers of children under the age of five years were excluded due to the difficulties assessing and diagnosing trauma symptoms in young children and the need for an alternative assessment tool. In addition, children under the age of five years do not attend two of the recruiting agencies (The Freedom Programme and KASP) and infrequently attend a further two recruiting agencies (CAMHS and CEDAR), therefore access to this population would

have been difficult. Further, this study aimed to investigate relational PTSD in older children to increase knowledge in an understudied area.

Table 2.1 – Inclusion and Exclusion Criteria

INCLUSION CRITERIA	EXCLUSION CRITERIA
Women who were currently or had historically experienced domestic abuse who are mothers of biological children aged 5-18 years, living together since birth.	Women who are not biological mothers to children living with them (e.g. step children, foster children, adopted children, kinship children who are relatives for example nieces, nephews, grandchildren or children who are family friends). Women with children who have a diagnosis of developmental delay, learning disability or autism spectrum disorder. Children under the age of 5 years old or over the age of 18 years.

Some women who met with the researcher for further study information were excluded. One women had a child who had recently been accommodated in foster care and felt she could not accurately report on the child's recent trauma symptoms. In addition, it would have been difficult to determine the impact that separation from family, home and adjusting to being accommodated would have had on the child's trauma presentation. Two mothers reported that their child had a diagnosis of developmental delay, learning disability or autism spectrum disorder.

A total number of 84 women participated, of whom 25% (n=21) participants were recruited from the Child and Adolescent Mental Health Service (CAMHS), 21% (n=18) from Women's Aid, 23% (n=19) from the Freedom Programme, 27% (n=23) from the Children Experiencing Domestic Abuse Recovery (CEDAR) project and 4% (n=3) recruited from the Kingdom Abuse Survivors Project (KASP). Women were aged between 25 and 52 years, $M=37$, $S.D=6.6$, with 85% (n=72) aged between 30 and 50 years. Children were aged between 5 and 18 years, $M=9.7$, $S.D=3.56$. 76% (n=64) of children were aged between 5 and 12 years and 24% (n=20) were

adolescents aged between 13 and 18 years. 45% (n=38) of children were male and 55% (n=46) were female.

The sample was comprised solely of mothers (100%, n=84) and children (100%, n=84) who reported their ethnicity as white British or Scottish. 82% (n=69) of women reported that they were currently single, divorced or separated, 17% (n=14) reported they were in a cohabiting relationship and 1% (n=1) women reported she was in a relationship and not cohabiting. 62% (n=52) of women reported earning less than £10,399 annually with an additional 15% (n=12) of women reporting earning less than £15599 annually taking the total number of women earning less than £15599 annually to 77% (n=64). Tables 2.2 and 2.3 report both categorical and continuous demographic variables.

Table 2.2 – Continuous Demographic Variables

DEMOGRAPHIC CONTINUOUS VARIABLE	RANGE	MEAN	STANDARD DEVIATION
CHILD AGE	5-18 Years	9.7	3.56
MATERNAL AGE	25-52 Years	37.0	6.60

Table 2.3 – Categorical Demographic Variables

DEMOGRAPHIC CATEGORICAL VARIABLE		NUMBER	%
CHILD AGE	5-12 Years	64	76
	13-18 Years	20	24
MATERNAL AGE	20-30 Years	10	12
	31-40 Years	39	47
	41-50 Years	33	39
	51-60 Years	2	2
CHILD GENDER	Male	38	45
	Female	46	55
CHILD ETHNICITY	White British/Scottish	84	100
MATERNAL ETHNICITY	White British/Scottish	84	100
MATERNAL MARITAL STATUS	Married/Cohabiting	14	17
	Single/Separated/ Divorced	69	82
	In a relationship not cohabiting	1	1
INCOME	Less than £5200	22	26
	£5200-£10399	30	36
	£10400-£15599	12	14
	£15600-£25999	13	15
	£26000-£36399	4	5
	£36400-£49399	3	4

2.6. Measures

Six questionnaires measuring demographic characteristics, exposure to domestic abuse, maternal mental health including depression, anxiety, stress and trauma symptoms and child trauma symptoms were administered. No participant declined to answer any questions.

Demographics

A questionnaire was designed to assess child gender, child age, maternal age, child and maternal ethnicity, maternal marital status, total annual household income, maternal duration of exposure to DA, whether DA was ongoing or time since DA ended, age of child at first exposure to DA, child experience of DA (whether children witnessed directly, heard or saw aftermath of events), whether the child had been exposed to additional traumatic events (physical maltreatment, community violence, road traffic accident or other event) and service attended.

Frequency and Severity of Domestic Abuse

The Severity of Violence Against Women Scale (SVAWS) (Marshall, 1992) was used to assess the frequency and severity of threats and physical DA experienced by the women in their intimate relationship. Women indicated how often each behaviour had occurred using a Likert-type scale response format; 1= never, 2= once, 3= a few times, 4= many times. A total of 40 questions assessed behaviours which provided a total physical abuse score ranging from 40 (minimum score) to 160 (maximum score), with higher scores indicating more frequent and severe abuse. Sample items include; “threatened someone you care about”, “threatened to hurt you” and “threatened to kill you”, “pushed or shoved you”, “punched you” and “hit you with an object”. The

sexual violence section of the SVAWS (Marshall, 1992), was removed for the purpose of the current study as assessing sexual violence was not essential. Assessing sexual violence has the potential to be highly distressing for women who may already be vulnerable and distressed. As the researcher was not aware of the women's background history or current presentation, the priority was to reduce participant burden and potential distress wherever possible. In addition, women have been found to underreport sexual violence (Graham-Bermann et al., 2006). Marshall (1992) initial internal consistency reliability estimates ranged from .92 to .96 for female college students and .89 to .96 for community women. Reliability for abused women has ranged from .89 to .91 for threats of abuse and .91 to .94 for assault (Coker, Derrick, Lumpkin, Aldrich, & Olendick, 2000; Gist et al., 2001). Cronbach's alpha for this sample was .96.

The Psychological Maltreatment of Women Inventory (PMWI) short form (Tolman, 1999), was used to assess the frequency and severity of psychological abuse experienced by women. Women indicated how often each behaviour had occurred using a Likert-type scale response format; 1= never, 2= rarely, 3= occasionally, 4= frequently, 5= very frequently. A total of 14 questions assessed behaviours which provided a total psychological abuse score ranging from 14 (minimum score) to 70 (maximum score), with higher scores indicating more frequent abuse. Sample items include; "my partner treated me like an inferior", "my partner monitored my time and made me account for where I was", "my partner accused me of having an affair", "my partner tried to keep me from doing things to help myself", "my partner told me my feelings were crazy or irrational", "my partner blamed me for his problems". Tolman (1999) initial internal consistency reliability estimates ranged from .88 to .92.

Cronbach's alpha for this sample was .92.

Maternal Depression, Anxiety and Stress Symptoms

The Depression, Anxiety and Stress Scales (DASS-21) (Lovibond & Lovibond, 1995) was used to measure the severity of maternal depression, anxiety and stress symptoms. The women self-reported to indicate how often they had experienced each symptom within the past week using a Likert-type scale response format, 0= never, 1= sometimes, 2= often, 3= almost always. A total of 21 items assessed symptoms in 3 clinical scales; 7 items assessing depression, 7 items assessing anxiety and 7 items assessing stress. Each scale produced a total score ranging from 0 (minimum score) to 21 (maximum score), with higher scores indicating greater severity of symptoms. Total scores were used to categorise mother's symptoms; depression scores ranging between 0-4 were classified as normal, 5-6 mild, 7-10 moderate, 11-13 severe, 14+ extremely severe, anxiety scores ranging between 0-3 were classified as normal, 4-5 mild, 6-7 moderate, 8-9 severe and 10+ extremely severe, stress scores ranging between 0-7 were classified as normal, 8-9 mild, 10-12 moderate, 13-16 severe, 17+ extremely severe (Lovibond & Lovibond, 1995). Sample items from the depression scale include, "I felt down-hearted and blue", "I felt that life was meaningless". Sample items from the anxiety scale include, "I was worried about situations in which I might panic and make a fool of myself", "I felt scared without any good reason". Sample items from the stress scale include, "I found it difficult to relax", "I was intolerant of anything that kept me from getting on with what I was doing". The DASS clinical scales have shown high internal consistency with coefficient alphas of .94 for depression, .88 for anxiety and .93 for stress (Lovibond & Lovibond, 1995). Cronbach's alpha for this sample was .93 for depression, .88 for anxiety and .89 for stress.

Maternal Trauma Symptoms

The Impact of Events Scale Revised (IES-R) (Weiss & Marmar, 1997) was used to assess the frequency of maternal trauma symptoms (intrusive thoughts, avoidant thoughts, and arousal). The women self-reported to indicate how often they had experienced each symptom within the past week using a Likert-type scale response format, 0= not at all, 1= a little, 2= moderately, 3= quite a bit, 4= extremely. A total of 22 questions assessed symptoms and produced a total score ranging from 0 (minimum score) to 88 (maximum score), with higher scores indicating greater severity of symptoms. Total scores were also used to categorise mother's symptoms; scores below 24 were categorised as no clinical concern, scores of 24 and above were categorised as indicating clinical concern, scores of 33 and above were categorised as indicating probable PTSD diagnosis (Weiss & Marmar, 1997). Sample items include, "I tried not to think about it", "I tried not to talk about it", "I thought about it when I didn't mean to", "Pictures about it popped into my mind", "I was jumpy and easily startled", "I felt watchful and on guard". Participants were instructed to think about their experience of DA whilst completing this questionnaire. The IES-R has shown high internal consistency, with coefficient alpha's ranging from 0.78 to 0.92 for intrusion, 0.82 to 0.85 for avoidance and 0.79 to 0.90 for hyperarousal (Weiss & Marmar, 1997). Test- retest correlation coefficient alpha ranged from 0.57 to 0.94 for intrusion, 0.51 to 0.89 for avoidance and 0.59 to 0.92 for hyperarousal (Bennett, Conway, Clatworthy, Brook, & Owen, 2001; Weiss & Marmar, 1997). Cronbach's alpha for the total score in this sample was .92.

Child Trauma Symptoms

The Parent Report of Posttraumatic Symptoms (PROPS) (Greenwald & Rubin,

1999) was used to assess severity of child trauma symptoms in children aged 5 to 18 years. Women indicated how often their child had experienced each symptom within the past week using a Likert-type scale response format, 0= not true or rarely true, 1= somewhat or sometimes true, 2= very or often true. A total of 32 items assessed a broad range of posttraumatic symptomatology. A broad definition of trauma symptoms based on past research was used in designing this instrument rather than being limited to PTSD diagnosis (Greenwald & Rubin, 1999). Trauma symptoms were measured as an alternative to diagnosis of PTSD due to difficulties diagnosing PTSD in children using adult based criteria (Emery & Lowmann-Billings, 1998; Putnam, 1997). In addition, there is question over how children's trauma symptoms present at different ages and as the children in the study ranged from 5 to 18 years, an assessment of a broad range of trauma symptoms was most informative. As a number of developmentally unique trauma symptoms have been identified in children (Cloitre et al., 2009; Graham- Bermann et al., 2008; Levendosky et al., 2002; Pynoos et al., 2009; Scheeringa, Zeanah, Myers, & Putnam, 2003), using the PROPS allowed for children's developmentally unique trauma symptoms to be assessed. Sum of responses produced a total score ranging from 0 (minimum score) to 64 (maximum score), with higher scores indicating greater severity of trauma symptoms. Total scores were used to categorise children's symptoms; scores below 16 were categorised as no clinical concern and scores above 16 were categorised as indicating a clinical level of trauma symptoms and concern. Sample items from the PROPS include; "difficulty concentrating", "thinks of bad memories", "worries", "hyper alert", "fearful", "startles easily", "doesn't care anymore", "difficulty sleeping".

The PROPS has been used with parents of children aged 5 to 18 years and has

been validated for use with children aged 8 to 15 years. The PROPS has shown high internal consistency, with coefficient alphas ranging from 0.87 to 0.91 (Greenwald & Rubin, 1999). High test-retest reliability (.79 $p < .001$) and good criterion validity (.60 $p < .001$) have been reported (Greenwald & Rubin, 1999; Strand, Sarmiento, & Pasquale, 2005). Cronbach's alpha for this sample was .90.

2.7. Planned Analyses

Planned analyses included initial descriptive data analyses, correlation analyses to explore relationships between predictor and outcome variables and regression analyses to test predictors of the outcome variable and whether maternal trauma symptoms moderate the relationship between domestic abuse and child trauma symptoms. All analyses were conducted using SPSS version 22.

Descriptive Statistics, Accuracy and Missing Data

Descriptive statistics were analysed to summarise and describe numerical information. Minimum, maximum, range, mean, standard deviation and frequency of scores were used to report demographic, domestic abuse and psychological variables. Descriptive statistical analyses also allowed the data to be assessed for accuracy to ensure scores were within expected limits and no errors had occurred during data entry.

Predictor and Outcome Variables

The fourteen predictor variables were chosen based on theory and past research and included; child age, child gender, annual family income, frequency and severity of threats and physical DA, frequency and severity of psychological DA, length of domestic abuse experienced by the mother (months), period of time since domestic abuse ended (months), age of child when domestic abuse started (years), the nature of children's exposure to abuse (directly witnessed, overheard or saw the aftermath),

other traumatic events experienced by the child (physical maltreatment, road traffic accident, community violence, other), maternal depression, maternal anxiety, maternal stress and maternal trauma symptoms (Dong, Anda, Dube, Giles, & Felitti, 2003; Edleson, 1999b; Fantuzzo, Boruch, Beriama, & Atkins, 1997; Lamers-Winkelmann, Willemen, & Visser, 2012; Lapierre, 2008; Spaccarelli, 1994; Whitfield, Anda, Dube, & Felitti, 2003; Zarling et al., 2013) with severity of child trauma symptoms as the outcome variable.

Outliers

Mahalanobis distance, Cooks and leverage values were calculated to check individual data points for outliers and extreme values with no problems identified. Box and whisker plots were also analysed to identify possible outliers. Four data points in the variable measuring time since DA had ended (those who scored 60 months) were identified as outliers from the plots. These data points were windsorised in order to reduce the impact of these values on normality and power.

3. Results

There were no missing values which were likely due to questionnaires being completed in an interview format whereby participants were supported to understand and answer questions.

Domestic Abuse

The duration of DA experienced by the women ranged from 24-276 months ($M=129$, $S.D=67.1$). 91% ($n=76$) of women reported a duration of longer than 5 years, 54% ($n=45$) reporting duration longer than 10 years and 10% ($n=8$) reported living with DA for over 20 years. 12% ($n=10$) women reported experiencing ongoing abuse, 43% ($n=36$) reported the abusive relationship had ended in the last 12 months and 68% ($n=57$) reported abuse ending within the last 24 months. 82% ($n=68$) of women reported that their child had been exposed to DA in utero, 94% ($n=78$) of women

reported that their child had been exposed to DA before the age of five years and only (1%) (n=1) reported their child had first been exposed to DA during adolescence (at age 13 years).

The frequency and severity of threats and physical DA women reported ranged from 53-155 ($M=104$, $S.D=30$). 43% (n=36) of women scored between 53 and 100 while 57% (n=48) scored between 100 and 155. The frequency and severity of psychological DA women reported ranged from 24-70 ($M=62.3$, $S.D=10.88$). 83% (n=70) women scored between 52 and 70 with 45% (n=38) scoring the maximum score of 70.

Women reported that 80% (n=67) of children had witnessed DA directly while 20% (n= 17) had overheard incidents. 20% (n=17) of the children had allegedly been hit by the perpetrator while the remaining 80% (n=67) had not experienced any additional potentially traumatic events. Tables 2.4 and 2.5 report both categorical and continuous domestic abuse variables.

Table 2.4 – Continuous Domestic Abuse Variables

DOMESTIC ABUSE CONTINUOUS VARIABLE	POSSIBLE RANGE	RANGE	MEAN	STANDARD DEVIATION
LENGTH OF DA	Any	24-276 months (2-23 Years)	129	67.1
TIME SINCE DOMESTIC ABUSE ENDED	Any	0 (ongoing) – 60 months (ongoing– 5 Years)	18	15.4
AGE OF CHILD WHEN DOMESTIC ABUSE STARTED	0-18	0 (pregnancy) – 13 yrs. (Pregnancy-156 Months)	1	2.78
SEVERITY OF THREATS AND PHYSICAL DOMESTIC ABUSE (SVAWS)	40-160	53-155	104	30
SEVERITY OF PSYCHOLOGICAL DOMESTIC ABUSE (PMWI)	14-70	24-70	62.3	10.88

Table 2.5 – Categorical Domestic Abuse Variables

DOMESTIC ABUSE CATEGORICAL VARIABLE		NUMBER	%
LENGTH OF DOMESTIC ABUSE	2-3 Years	4	5
	3-4 Years	2	2
	4-5 Years	2	2
	5-10 Years	31	37
	10-20 Years	37	44
	20-23 Years	8	10
TIME SINCE DOMESTIC ABUSE ENDED	Ongoing	10	12
	0-3 Months	10	12
	3-6 Months	2	2
	6-12 Months	24	29
	12-18 Months	4	5
	18-24 Months	17	20
	24-36 Months	12	14
	36-48 Months	1	1
	48-60 Months	4	5
	Pregnancy	68	82
	2-5 Years	10	12
AGE OF CHILD WHEN DOMESTIC ABUSE STARTED	5-12 Years	5	5
	12-13 Years	1	1
	Observed events	67	80
	Heard events	17	20
TYPE OF DOMESTIC ABUSE EXPOSURE	Saw aftermath	0	0
	Other Traumatic Experiences		
	Nil	67	80
OTHER TRAUMATIC EXPERIENCES	Physical maltreatment	17	20
	Road traffic accident	0	0
	Community violence	0	0
	Serious injury	0	0

Psychological Variables

Women's depression scores ranged from 0-21 in this sample ($M=13.27$, $S.D=6.56$).

12% ($n=10$) scored in the normal range, 6% ($n=5$) in the mild range, 25% ($n=21$) in the moderate range, 1 (1%) in the severe range and 56% ($n=47$) of women scored within the extremely severe range for depression.

Women's anxiety scores ranged from 1-21 ($M=13.0$, $S.D=5.77$). 8% ($n=7$) scored in the normal range, 0% ($n=0$) in the mild range, 13% ($n=11$) in the moderate range, 6% ($n=5$) in the severe range and 73% ($n=61$) of women scored within the extremely severe range for anxiety. Women's stress scores ranged from 0-21 ($M=14.93$,

$S.D=5.24$). 13% ($n=11$) scored in the normal range, 5% ($n=4$) in the mild range, 13% ($n=11$) in the moderate range, 21% ($n=18$) in the severe range and 48% ($n=40$) of women scored within the extremely severe range for stress.

Women's symptoms of trauma ranged from 0-88 ($M=60.42$, $S.D=23.41$). 7% ($n=6$) of women's trauma symptoms were categorised as indicating below clinical concern, 2% ($n=2$) indicated clinical concern and 91% ($n=76$) of women's scores indicated probable post-traumatic stress disorder (PTSD).

Children's trauma symptoms ranged from 0-62 ($M=35.9$, $S.D=15.9$). 8% ($n=7$) of children's scores were categorised as no clinical concern and 92% ($n=77$) of children's scores were categorised as indicating clinical concern. Tables 2.6 and 2.7 report continuous and categorical psychological variables.

Table 2.6 - Continuous Psychological Variables

PSYCHOLOGICAL CONTINUOUS VARIABLES	POSSIBLE RANGE	RANGE	MEAN	STANDARD DEVIATION
MATERNAL DEPRESSION SYMPTOMS (DASS 21)	0-21	0-21	13.27	6.56
MATERNAL ANXIETY SYMPTOMS (DASS 21)	0-21	1-21	13.0	5.77
MATERNAL STRESS SYMPTOMS (DASS 21)	0-21	0-21	14.93	5.24
MATERNAL TRAUMA SYMPTOMS (IES-R)	0-88	0-88	60.42	23.41
CHILD TRAUMA SYMPTOMS (PROPS)	0-64	0-62	35.9	15.9

Table 2.7 – Categorical Psychological Variables

PSYCHOLOGICAL CATEGORICAL VARIABLES	CATEGORY	NUMBER	%
MATERNAL DEPRESSION SYMPTOMS (DASS 21)	Normal	10	12
	Mild	5	6
	Moderate	21	25
	Severe	1	1
	Extremely severe	47	56
MATERNAL ANXIETY SYMPTOMS (DASS 21)	Normal	7	8
	Mild	0	0
	Moderate	11	13
	Severe	5	6
	Extremely severe	61	73
MATERNAL STRESS SYMPTOMS (DASS 21)	Normal	11	13
	Mild	4	5
	Moderate	11	13
	Severe	18	21
	Extremely severe	40	48
MATERNAL TRAUMA SYMPTOMS (IES-R)	Below clinical concern	6	7
	Clinical concern	2	2
	Probable PTSD	76	91
CHILD TRAUMA SYMPTOMS (PROPS)	No	7	8
	clinical concern		
	Clinical concern	77	92

Correlation Analyses and Independent-Samples t-Test

Power was preserved by only including predictor variables that were significantly related to the outcome variable (Tabachnick & Fidell, 2006). Pearson correlation coefficient analyses were performed for all predictors and the outcome variable. Correlational analyses revealed that the length of DA experienced was not significantly related to child trauma symptoms, $r = .193$, 95% BCaCI [-.006, .367], $p = .078$, the time since DA ended was not significantly related to child trauma symptoms, $r = .034$, 95% BCaCI [-.182, .255], $p = .759$ and the age of child when DA started was not significantly related to child trauma symptoms, $r = .080$, 95% BCaCI [-.095, .281], $p = .467$. Therefore, these predictor variables were excluded from the regression analysis. Table 2.8 provides a correlation matrix of predictor

and outcome variables with 95% bias corrected and accelerated confidence interval and standard errors based on 1000 bootstraps.

Table 2.8 Correlation Matrix of Predictor and Outcome Variables

	Child Gender	Child Age	Annual Income	Length DA	Time DA Ended	Age DA Started	Type DA Exposure	Other Traumatic Experiences	Physical DA	Psycholog DA	Maternal Depression	Maternal Anxiety	Maternal Stress	Maternal Trauma	Child Trauma
Child Gender		-.047 [-.271, .171]	.127 [-.091, .330]	.132 [-.084, .333]	-.216* [-.400, .015]	-.134 [-.341, .067]	.041 [-.185, .239]	-.257* [-.427, -.065]	-.234* [-.418, -.029]	-.230* [-.402, -.030]	.137 [-.062, .346]	.079 [-.137, .318]	.162 [-.055, .399]	.027 [-.172, .243]	-.172 [-.372, .061]
Child Age			-.215* [-.390, -.043]	.287** [.067, .498]	-.123 [-.288, .069]	.356** [.171, .513]	-.113 [-.299, .106]	-.147 [-.320, .045]	-.090 [-.306, .141]	-.045 [-.276, .224]	.235* [.024, .446]	.201 [-.007, .410]	.315** [.111, .495]	.245* [.063, .418]	.241* [.055, .416]
Annual Income				-.079 [-.302, .161]	-.344** [-.493, -.177]	.010 [-.133, .171]	.042 [-.168, .277]	.064 [-.158, .284]	-.171 [-.361, .079]	-.275* [-.416, -.080]	-.288** [-.462, -.092]	-.302** [-.467, -.089]	-.196 [-.376, .006]	-.070 [-.275, .157]	-.009 [-.214, .215]
Length of DA					-.165 [-.329, .088]	-.480** [-.575, -.389]	-.087 [-.304, .119]	-.294** [-.448, -.137]	-.142 [-.324, .053]	-.062 [-.290, .134]	.052 [-.177, .310]	.115 [-.092, .369]	.046 [-.190, .313]	.048 [-.145, .271]	.193 [-.011, .404]
Time Since DA Ended						-.209 [-.345, -.035]	-.118 [-.325, .127]	-.025 [-.220, .183]	.259* [.047, .428]	.381** [.201, .511]	.053 [-.120, .228]	-.065 [-.285, .156]	-.123 [-.343, .104]	.185 [.025, .341]	.034 [-.186, .252]
Age of Child When DA Started							-.015 [-.172, .202]	.198 [-.078, .457]	.056 [-.169, .298]	-.079 [-.424, .276]	-.066 [-.275, .153]	-.079 [-.289, .161]	-.011 [-.227, .192]	.049 [-.145, .222]	.080 [-.085, .245]
Type of DA Exposure								-.106 [-.256, .099]	-.042 [-.269, .196]	-.168 [-.399, .027]	-.166 [-.382, .067]	-.108 [-.312, .093]	-.175 [-.387, .052]	-.376** [-.558, -.166]	-.231* [-.397, -.048]
Other Traumatic Experiences									.251* [.037, .450]	.158 [-.013, .288]	-.207 [-.395, -.028]	-.196 [-.374, -.028]	-.169 [-.339, -.006]	.015 [-.229, .224]	.200 [.023, .356]
Physical DA										.638** [.498, .735]	-.033 [-.224, .166]	.104 [-.106, .306]	-.127 [-.310, .059]	.275* [.053, .488]	.426** [.236, .594]
Psychological DA											.119 [-.069, .301]	.416** [.222, .580]	.193 [.006, .382]	.501** [.316, .663]	.318** [.140, .493]
Maternal Depression												.658** [.509, .790]	.778** [.661, .877]	.560** [.372, .726]	.345** [.115, .555]
Maternal Anxiety													.827** [.745, .902]	.577** [.401, .730]	.431** [.229, .621]
Maternal Stress														.636** [.480, .775]	.392** [.180, .574]
Maternal Trauma															.618** [.442, .761]

* = $p < .05$ ** = $p < .001$ BCa bootstrap 95% CI's reported in brackets.

Independent-samples t-tests were used to compare the means of binary variables. On average, male children scored higher on trauma symptoms ($M=38.47$, $SE=2.35$), than female children ($M=33.02$, $SE=2.47$); however this difference, 5.45, 95% BCaCI [-1.071, 11.835], was not significant $t(82)=1.6$, $p=.118$. On average, children who had experienced physical maltreatment in addition to experiencing DA scored higher on child trauma symptoms ($M=41.80$, $SE=3.46$), than children who had not experienced additional traumatic events (physical maltreatment) ($M=33.90$, $SE=1.95$); however this difference -7.87, 95% BCaCI [-15.62, .527], was not significant $t(82)=-1.85$, $p=.058$. Due to the lack of significant difference these predictor variables were also excluded from the regression analysis.

Method of Regression Analysis

Cohen and Cohen (1975) and Field (2013) discuss strengths and limitations of regression methods. Due to limited prior investigation, uncertainty existed regarding the optimal order of predictor variable entry into the regression model. Simultaneous forced entry regression was chosen as this method is most appropriate for model building and testing non-established or new predictors. This method involves simultaneous entry of all predictor variables and allows the predictive power of each variable to be reported in order to identify the most important predictors of the outcome variable.

Regression Analysis Assumptions

The assumptions of regression analysis were checked prior to conducting the analysis to ensure reliability of results. Issues were identified with multicollinearity as the frequency and severity of threats and physical DA variable was significantly related to the severity of psychological abuse variable, $r = .638$, 95% BCaCI

[.506, .736], $p < .001$. In addition, 45% of participants scored the highest possible score and many others also scored highly on the severity of psychological abuse variable. Due to concerns about multicollinearity in addition to the limited distribution of scores it was decided that severity of psychological abuse variable (PMWI) would not be entered into the regression analysis.

Further concerns about multicollinearity existed as maternal depression symptoms were significantly related to maternal anxiety symptoms, $r = .658$, 95% BCaCI [.520, .789], $p = .000$ and maternal anxiety symptoms were significantly related to maternal stress symptoms, $r = .827$, 95% BCaCI [.749, .900], $p = .000$. Due to the highly significant correlations between the three DASS 21 scales the mean and rank of the three scales were calculated to combine these three variables into one to address multicollinearity and conserve power.

Regression Analysis

From the original fourteen predictor variables eight were excluded from the regression model. One variable (severity of psychological DA) was excluded due to multicollinearity and normality concerns. Five variables (length of DA, time since DA ended, age of child when DA started, child gender and whether children had experienced additional traumatic experiences) were excluded because they did not add to the predictive ability of the regression equation. Maternal depression, stress and anxiety variables were combined into a rank of the three, due to concerns regarding multicollinearity.

In addition to ensuring that regression assumptions were met, excluding these variables allowed the power of the study to be conserved as the required sample size for 14 predictors was not achieved. Green's (1991) formula and G^* power (Faul et

al., 2007, 2009) estimated that 98 participants were required in order to detect a medium effect with 6 predictors at an alpha level of .05 and a power of .80. Harris' (1985) formula estimated an absolute minimum of 60 participants were required. Therefore, the aim of recruiting between 60 and 98 participants was achieved with a sample size of 84.

The six predictor variables entered into the simultaneous forced entry linear regression model included child age, annual family income, type of DA exposure (witnessed events directly/ heard events/ saw aftermath of events), frequency and severity of threats and physical DA, the rank of maternal depression, anxiety and stress and maternal trauma symptoms.

The six predictors explained a significant amount of the variance in child trauma symptoms ($F(6, 77) = 13.00, p < .001, R^2 = .50, \text{Aj}R^2 = .47$), representing a large effect size of $f^2 = 1.0$. Of the six predictors three were significant: severity of threats and physical DA, $b = 0.20 [0.11, 0.28], p = .001$, maternal trauma symptoms, $b = 0.24 [0.07, 0.43], p = .010$ and income $b = 2.09 [0.16, 4.33], p = .050$. The linear model of the six predictors with 95% bias corrected and accelerated confidence interval and standard errors based on 1000 bootstraps is provided in Table 2.9.

Table 2.9 – Linear Model of Predictors

PREDICTOR	<i>b</i>	<i>SEB</i>	<i>B</i>	<i>P</i>
Constant	-15.55 (-32.50, 1.50)	8.82		.086
Age	0.74 (-0.05, 1.53)	0.39	.17	.060
Income	2.09 (0.16, 4.33)	1.06	.18	.050
Severity of DA	0.20 (0.11, 0.28)	0.04	.37	.001
Type of DA Exposure	-1.56 (-8.64, 5.38)	3.41	-.04	.664
Rank DASS 21	0.12 (-0.05, 0.28)	0.08	.19	.132
Maternal Trauma Symptoms	0.24 (0.07, 0.43)	0.09	.36	.010

Note $R^2 = .50 (ps < .001)$

Standardised residuals were used to assess extreme and influential cases. Influence statistics (Cook's, Leverage and Mahalanobis values) and casewise diagnostics were within expected limits indicating that model error was acceptable and an accurate representation of sample data (Field, 2013). The normality of residuals was confirmed using a histogram and normal probability plot. A scatterplot of standardised residuals against standardised predicted values and partial plots of standardised residuals confirmed that the assumptions of homoscedasticity and linearity were met. No multicollinearity was supported by variance inflation factor (VIF) and tolerance statistics which were within expected limits indicating independence of errors (Field, 2013). Durbin Watson statistics were used to check independence of residuals in the model. As this statistic was close to two this suggests that the assumption of homogeneity of variance was met (Field, 2013). The difference between R^2 and adjusted R^2 was examined to assess the ability of the model to generalise to other samples this value = 0.04 (4%). Overall these results suggest that the model appears to be accurate for this sample and generalisable to the population.

Moderation Analysis

A moderation analysis investigated whether there was an interaction between the frequency and severity of threats and physical DA and maternal trauma symptoms in predicting child trauma symptoms. In order to detect a medium effect size at an alpha level of .05 and power of .80 with three predictors in the moderation analysis 74 participants were required (Green, 1991) with an absolute minimum number of 30 (Harris, 1985). Therefore, the aim of recruiting between 30 and 74 participants was achieved with a sample size of 84.

Frequency and severity of threats and physical DA was entered as the predictor, child

trauma symptoms as the outcome and maternal trauma symptoms as the moderator with child age, annual income, type of DA exposure and rank of maternal depression, stress and anxiety symptoms entered as covariates. This model was analysed using the PROCESS syntax supplied by Hayes (2013).

Frequency and severity of threats and physical DA and maternal trauma symptoms were significant predictors of child trauma symptoms, $F(7,76)=27.500$, $p<.001$, $R^2=.50$. The interaction was not significant, $b= -0.009$, 95% CI $[-0.0051, 0.32]$, $t= -0.44$, $p= 0.654$ indicating that the relationship between frequency and severity of threats and physical DA and severity of child trauma symptoms was not moderated by maternal trauma symptoms. As severity of threats and physical DA increased, child trauma symptoms increased significantly, $b=0.1932$, 95% CI $[0.1031, 0.2833]$, $t=4.27$, $p<.001$. As frequency and severity of maternal trauma symptoms increased, severity of child trauma symptoms increased significantly, $b=0.2497$, 95% CI $[0.0485, 0.4508]$ $t=2.47$, $p=0.02$. Table 2.10 reports the linear model of the predictors of child trauma symptoms including severity of threats and physical DA, severity of maternal trauma symptoms and their interaction.

Table 2.10 – Linear Model of Predictors Including their Interaction

	<i>B</i>	<i>SEB</i>	<i>T</i>	<i>P</i>
CONSTANT	19.59 [2.79, 36.40]	8.44	2.32	0.023
SEVERITY MATERNAL TRAUMA SEVERITY (centred)	0.25 [0.05, 0.45]	0.10	2.47	0.016
DOMESTIC ABUSE FREQUENCY AND SEVERITY (centred)	0.19 [0.10, 0.28]	0.05	4.27	0.000
MATERNAL TRAUMA SEVERITY X DOMESTIC ABUSE FREQUENCY AND SEVERITY	-0.01 [-0.01, 0.32]	0.00	-0.44	0.654
Note $R^2=.50$				

4. Discussion

4.1 Summary of Findings

Overall Aims

This study aimed to increase understanding of trauma symptoms and investigate the relational nature of trauma (Scheeringa & Zeanah, 2001), in children and adolescents aged five to eighteen years who have been exposed to DA. Participants included women who were recruited from voluntary and council community agencies supporting victims of DA and a child and adolescent mental health service within the NHS. Women reported on their experiences of DA, their symptoms of depression, anxiety, stress and trauma and their child's symptoms of trauma.

Overall Findings

Women reported a range of DA experiences, although most had experienced chronic and severe physical and psychological abuse. Over half had left the abusive relationship within the past year and some were experiencing ongoing abuse. The majority of these women reported severe or very severe depression, anxiety, stress and probable PTSD, similar to women seeking support from DA services in past research (Ferrari et al., 2016). Physical and psychological abuse were significantly related to trauma symptoms in women evidencing the link found in past research (Campbell & Lewandowski, 1997; Cascardi et al., 1999; Holtzworth-Munroe et al., 1997; Kemp, Rawling, & Green, 1991; Levendosky et al., 2004; Lilly & Graham-Bermann, 2009; Saunders, 1994).

The first aim of this study was to assess trauma symptoms in children exposed to DA. The majority of children in this sample scored within the range of clinical concern for trauma symptoms. There was a significant relationship between exposure to

physical and psychological abuse and trauma symptoms in children and adolescents. These results support findings of past research which has found a relationship between exposure to DA and PTSD diagnosis (Georgsson et al., 2011; Graham Bermann & Levendosky, 1998; Graham-Bermann et al., 2006; Kilpatrick & Williams, 1997; Lehmann, 1997; McCloskey & Walker, 2000; McDonald et al., 2016; Mertin & Mohr, 2002) and trauma symptoms (Boeckel et al., 2017; Bogat et al., 2006; Graham- Bermann et al., 2006; Jarvis et al., 2005; Lehman & Ellison, 2001; Levendosky et al., 2013; Rossman, 2000; Saltzman et al., 2005; Tailor et al., 2015). The second aim of this study was to assess predictors of trauma symptoms in children exposed to DA. Severity of threats and physical DA, annual family income and maternal trauma symptoms were significant predictors explaining a large amount of the variance in child trauma symptoms. These findings support past research reporting DA (Graham-Bermann et al., 2006; Jarvis et al., 2005; Mertin & Mohr, 2002) and income (Graham-Bermann et al., 2006; McDonald et al., 2016) are predictors of trauma symptoms in children and adolescents exposed to DA (Graham-Bermann et al., 2006).

Although DA affects people across the socio-economic spectrum, past research has found that families with lower socioeconomic status or who are living in poverty are more likely to experience DA (Buckner, Beardslee, & Bassuk, 2004; Jewkes, Levin, & Pen-Kekana, 2002; Kruttschnitt, Gartner, & Ferraro, 2002; Vest, Catlin, Chen, & Brownson, 2002). As the majority of women reported low income, this sample may be representative of the wider population. In addition to low income being related to DA low income is associated with more frequent and severe mental and physical

health problems beyond those associated with the exposure to trauma (Holt, Buckley, & Whelan, 2008; Sutherland, Sullivan, & Bybee, 2001). Income being a predictor of trauma symptoms in children may be related to both the higher incidence of DA but also the additional stress of living in poverty and its impact on mental health.

Maternal trauma symptoms were both significantly correlated with and found to be a significant predictor of child trauma symptoms. These findings are similar to previous research (Bogat et al., 2006; Graham-Bermann et al., 2006; Levendosky et al., 2013) and provide evidence for the Relational Theory of PTSD (Scheeringa & Zeanah, 2001) in a population of children aged five to eighteen years who have been exposed to DA. It is important to highlight that understanding trauma symptoms within a relational context is not mother blaming. Some authors have highlighted that women are often seen as unprotective, especially those who have been unable to leave the abusive relationship (Douglas & Walsh, 2010). Qualitative research with women has found that women often think through and plan a number of protective strategies to try and minimise the impact of perpetrator's abuse on their children such as separating them from violence, trying to calm their partner, responding to children's emotional needs and not leaving them alone with the perpetrator (Haight, Shim, Linn, & Swinford, 2007; Lapierre, 2010). Victims of DA are not responsible for the actions of perpetrators nor are they to blame for the impact that the severity of their symptoms has on parenting or the relationship to their child's symptoms (Scheeringa & Zeanah, 2001). Maternal depression, anxiety and stress symptoms and the rank of maternal depression, anxiety and stress symptoms were significantly correlated with child trauma symptoms; however, the rank of DASS was not a significant predictor of child trauma symptoms. Similarly, Bogat et al. (2006) found that maternal

depression did not predict infant trauma symptoms.

The third aim of this study was to analyse whether maternal trauma symptoms moderate the relationship between exposure to DA and trauma symptoms in children and adolescents. The interaction between severity of threats and physical DA and severity of maternal trauma symptoms did not predict severity of child trauma symptoms indicating that the moderation effect was not supported. The significant relationship between severity of threats and physical DA and child trauma symptoms was present whether maternal trauma symptoms were low, average or high. This result suggests that exposure to DA is so overwhelming for children it has the potential to induce trauma regardless of maternal trauma level.

However, the severity of exposure to threats and physical DA, the severity of maternal trauma symptoms and the severity of child trauma symptoms were high within the present study, which may have created a ‘ceiling effect’, whereby little difference existed in the relationship between the predictor and outcome variable at different levels of the moderator resulting in little range to assess effects or change. In addition, concerns have been raised about the low power of multiple regression in detecting interaction effects particularly with non-experimental studies where less power exists when compared to experimental designs (McClelland & Judd, 1993). Frazier, Tix and Barron (2004) highlight that it can be unclear whether the interaction is not significant because the theory was wrong or the test of the interaction lacked sufficient power, although the required sample size was met with 84 participants. However, replication with larger samples testing how these constructs are related through conditional process analysis would be informative.

Nature of Domestic Abuse and Child Maltreatment

The majority of children in this sample had directly witnessed incidents of DA

which has been reported in other research (Fantuzzo et al., 2007; Fusco & Fantuzzo, 2009). Although children who witnessed events directly scored significantly higher on trauma symptoms when compared to children who had heard events from another room, type of witnessing was not a significant predictor of child trauma symptoms, which is in line with past research (Graham-Bermann & Levendosky, 1998). However, assessment was limited to a question of whether children had witnessed events directly or heard events to minimise participant burden. A more detailed or standardised assessment may have resulted in more accurate results and reporting.

Although women reported living with DA for long periods of time, which ranged between two and twenty three years, the length of DA exposure was not significantly related to trauma symptoms in children. This finding is not supported by past research which has found that children who meet criteria for PTSD have longer duration of witnessing (Jarvis et al., 2005; Levendosky et al., 2013; Mertin & Mohr, 2002). Over 90% of women in this sample had lived with DA for over five years therefore a ‘ceiling effect’ of chronic abuse may exist where women scored so consistently high there was not enough variation in scores to detect a significant relationship. 12% of women and children were experiencing ongoing abuse and over half reported that their abusive relationship had ended in the last year. The period of time since DA ended was not significantly related trauma symptoms in children. Kilpatrick and Williams (1998) also found that PTSD diagnosis was not mediated by the time since last violent episode in children exposed to DA. Many women were experiencing trauma symptoms despite having left the abusive relationship, a finding reported in

previous research (Woods, 2000). A number of women reported post-separation abuse with acts including violence, emotional abuse, stalking and children being used to find out information and relay threatening messages reported. Continued abuse may increase severity of trauma symptoms or prevent recovery due to ongoing threat, lack of safety and hypervigilance (Harris, Lieberman, & Marans, 2007). Post-separation abuse can increase in severity with threat to the victim's life greatest once they have left the relationship (Holt et al., 2008; Jaffe, Crooks, & Wolfe, 2003). Repeated separations, ongoing violence, custody battles and court appearances can also be traumatic (Jaffe et al., 2003). In addition, women who have PTSD are more likely to return to the abusive relationship increasing the risk for further violence exposure (Bybee & Sullivan, 2005). It would be more informative to measure post-separation contact, court proceedings and abuse in a structured way as ongoing abuse may explain why time since DA ended was not related to trauma symptoms. The majority of children had experienced DA their whole life with most DA starting during their mother's pregnancy and nearly all children exposed during their preschool years. This exposure to DA in the early years of a child's life is in line with other reports (Fantuzzo et al., 1997; Graham-Bermann & Perkins, 2010; Jarvis et al., 2005; Kilpatrick & Williams, 1998). The age of child at first exposure was not significantly related to child trauma symptoms, which is also supported by past research (Graham-Bermann & Perkins, 2010; Kilpatrick & Williams, 1998). However, this finding may have been influenced by the lack of sample variation in child age at first exposure.

Women reported that 20% of children in this sample had experienced physical maltreatment in addition to DA. As child maltreatment is also related to trauma symptoms in children (Briere, Kaltman, & Green, 2008; Cloitre et al., 2009), the

co-occurrence of DA and child maltreatment complicated investigations. Children who had experienced physical maltreatment in addition to experiencing DA scored higher on child trauma symptoms although this difference was not significant, a finding supported by past research (Graham-Bermann & Levendosky, 1998; Jarvis et al., 2005). Bedi and Goddard (2007) questioned whether children exposed to DA may be so distressed they are unable to be affected by further victimisation. However, McCloskey and Walker (2000) and Enlow, Blood, and Egeland (2013) (with preschool children) did find that child maltreatment in addition to DA increased the risk of trauma symptoms. Lamers-Winkelmann et al. (2012) found an additive effect of child maltreatment from parental report, but not when children reported on their own trauma symptoms. Respondents were aware of the limits of anonymity and confidentiality and the necessity to report any ongoing child protection concerns, which may have resulted in underreporting, underestimates of child maltreatment and biased results, although anonymity may have minimised unwillingness to report. Petchers (1995) found that when 46% of mothers reported their child had been maltreated, child protection records had documented that 62% of these children had been maltreated. Underreporting may occur for a variety of reasons including recall distress, difficulty acknowledging the abuse or the impact on children, embarrassment and social desirability, involvement in the perpetration of maltreatment or being unaware, repressed or forgotten abuse (Petchers, 1995). This study investigated physical maltreatment in isolation although children who live with DA are at increased risk of experiencing physical, sexual, psychological abuse and neglect (Chang & Yeung, 2009; Edleson, 1999b; Hamby, Finkelhor, Turner, & Ormrod, 2010; Holt et al., 2008; Zolotor, Theodore, Coyne-Beasley, & Runyan, 2007). As considerable co-occurrence has been found between maltreatment types (Higgins & McCabe, 2003;

Higgins, 2004), investigating physical abuse in isolation may be artificial, not representative of children's experiences and may explain why significant differences in trauma symptoms were not detected. However, some authors argue that failing to control for type of abuse may lead to outcomes being inaccurately attributed to maltreatment type (Edleson, 1999b, Holt et al., 2008). In addition, trauma symptoms in children exposed to DA may differ by maltreatment type and therefore investigation of individual maltreatment type may be informative. In addition to only assessing physical abuse and potential unwillingness to report, small numbers in the maltreatment group may have contributed to lack of significant findings.

Characteristics of Children

Although child age was significantly related to child trauma symptoms, child age was not a significant predictor of child trauma symptoms. Some authors have found that age does not influence the development of trauma symptoms in children exposed to DA (Graham- Bermann et al., 2006; Jarvis et al., 2005), although others have found that children meeting criteria for PTSD are younger (Mertin & Mohr, 2002). Younger children may be at greater risk of developing trauma symptoms due to a developmental stage characterised by the importance of forming attachment relationships, identification with and dependence on parents (Briggs-Gowan, Carter, & Ford, 2012; Crusto et al., 2010; Cunningham & Baker, 2004; Fantuzzo et al., 1997; Lieberman & Knorr, 2007; Price, Higa-McMillan, Sunyoung, & Frueh, 2013; Sternberg,

Baradaran, Abbott, Lamb, & Guterman, 2006). Less well developed cognitive, emotional, behavioural regulation and adaptive coping skills means younger children are less able to make sense of events and are more likely to develop strategies including dissociation and hypervigilance as a way to avoid threat (Briere & Spinazzola, 2005; Briggs-Gowan et al., 2012, Crusto et al., 2010; Cunningham & Baker, 2004; Fantuzzo et al., 1997; Lieberman & Knorr, 2007; McDonald, Jouriles, Briggs-Gowan, Rosenfield, & Carter, 2007; Price et al., 2013; Sternberg et al., 2006; Yates, Dodds, Sroufe, & Egeland, 2003). Although younger children have been found to be more likely to live in households with DA, older children have been found more likely to be present and intervene during abusive incidents, which may be traumatic and place them at higher risk of injury (DeVoe & Smith, 2002; Edleson et al., 2003; Fantuzzo et al., 1997; Fantuzzo et al., 2007; Graham-Bermann & Hughes, 2003; Levendosky et al., 2003; Zarling et al., 2013). Older children may also have been exposed to abuse for longer periods of time (Crusto et al., 2010). These factors may mean older children are more likely to develop trauma symptoms in the context of DA. Using a longitudinal design Levendosky et al. (2013), found low rates of PTSD in preschool children compared to older children and the likelihood of a traumatic response increased as the child aged. However, as these young children were displaying high rates of trauma symptoms, the low rates of PTSD were likely related to the difficulties children, especially young children have meeting PTSD diagnostic criteria (Levendosky et al., 2013).

Although male children scored higher on trauma, this difference was not significantly significant. This finding is supported by other research, which has found that child gender is not a predictor of trauma symptoms in children exposed to DA (Graham-Bermann & Levendosky, 1998; Graham-Bermann et al., 2006; Jarvis et al., 2005;

Kilpatrick & Williams, 1998). All women identified themselves and their children as white Scottish or British and therefore ethnicity as a predictor of child trauma symptoms was not analysed. Ethnicity has been rarely been studied and should be investigated further as both Graham-Bermann et al. (2006) and McDonald et al. (2016) found that child ethnicity predicted child trauma symptoms.

4.2 Limitations

Design

Due to the correlational, cross-sectional study design only associations between variables can be established, the roles of co-occurring risk factors and pre-existing characteristics of women and children cannot be fully accounted for and alternative models may explain results. Child trauma symptoms may influence maternal trauma symptoms in addition to maternal trauma symptoms predicting child trauma symptoms. Prior psychological symptoms were not controlled for and may be a precursor as well as an outcome of violence (Nurius, Russell, Herting, Hooven, & Thompson, 2009).

Sample

DA is often surrounded by extreme secrecy and fear of abuse escalating. These women had identified that they were experiencing abuse and the majority had left the abusive relationship and were accessing support services. As not all parents seek help for their children following DA (Stover, Hahn, Im & Berkowitz, 2010), this sample may over represent women who are willing to attend or feel they require help from services, which may represent a more or less severely affected population. It could be argued that these children are in a protected position because their mothers were able to seek help from services, which may demonstrate better functioning, strength and resilience.

Rossman (2001) argued that mothers who are well enough to identify the need for and gain access to services may be able to provide a more supportive environment for their children. Alternatively, women may have sought help due to severity of abuse and symptoms and may represent those who are less resilient or more severely affected. Women experiencing posttraumatic reactions have been found less likely to seek mental health services for their children (Chemtob & Carlson, 2004), and therefore although a number of women and children in this sample were experiencing severe trauma symptoms, those who do not attend services may experience even higher severity of trauma symptoms. Kitzmann et al. (2003) and Evans et al. (2008) meta-analyses found that child outcomes following exposure to DA were similar across community, school, clinical and shelter populations and therefore the nature of the sample may not be an important indicator of differing outcomes, although how this relates to trauma outcomes is unclear.

Recruitment

Recruiting staff did not discuss the study with every eligible participant who met inclusion criteria. The main reason reported by staff for not informing eligible participants was because women were in a crisis situation and too distressed to participate. Some staff reported selecting women whom they believed were most resilient and able to cope with participation. This may have led to the severity of abuse and symptoms in women and children being underestimated, although not including women in crisis could be a strength to ensure distress was not overestimated. Despite the possible risk of underestimation women and children in this sample had experienced severe DA and were experiencing severe psychological symptoms indicating that even women viewed as the most resilient were experiencing significant difficulties.

Participation Rates

This study is limited by the lack of information on participation rates. Monitoring

of this information was planned but was not possible because recruitment occurred across five agencies that the author did not work within. Service staff reported rates of participation were difficult to monitor due to the large numbers attending services, time constraints and forgetting. The total number of eligible participants, the number approached, the number who declined and whether these women differed from those who participated is unknown. This may have affected results as women who did not participate may have had different experiences of DA and psychopathology.

Participants

Experiences of DA can range vastly depending on the dangerousness and seriousness of the violence in addition to how frequent and long lasting the abuse is. Women in this sample had experienced a range of severity, frequency and duration of abuse so results may reflect the experiences of a number of women and children. No information was gathered regarding the age of onset and duration of symptoms in either women or children, which again limits understanding as the chronicity of symptoms could not be established. No information was collected regarding exposure to additional traumatic events in women such as whether the women had experienced maltreatment as children, which may have predicted psychological symptoms as women who were maltreated as children are at greater risk of experiencing DA as adults (Abramsky et al., 2011, Gomez & Speizer, 2009; Whitfield, Anda, Dube, & Felitti, 2003). In addition, whether women had witnessed DA as a child was not measured and may have influenced trauma outcomes, as caring for their own children in the context of DA may be a triggering experience for those who have experienced the same trauma (Dannlowski et al., 2012).

During the interviews a number of women disclosed that they were taking prescription medication for the treatment of anxiety and depression. These pharmacological treatments may have influenced symptoms reported by mothers. In

addition, these women were accessing services and the impact of attending services; for example, the length of attendance and support provided was not controlled for. Finally, a number of women disclosed post-separation abuse and ongoing custody and legal or court proceedings which were not assessed but may have contributed to mother and child trauma symptoms.

Method

Reports on exposure to DA and psychological symptoms were obtained from the same source, via maternal report. Since mothers provided data on both predictor and outcome variables, results could potentially be attributed to possible shared method variance and reporting bias may have influenced results (Finkelhor, Ormrod, & Turner, 2007). In addition, it is unknown whether maternal reports reflect children's actual experiences of DA. Some authors have suggested that women underestimate or underreport their children's level of exposure and awareness of the abuse (Edleson, 1999a; Fredland et al., 2015; Grych, Seid, & Fincham, 1992; Jaffe et al., 1990). Women experiencing trauma symptoms may underestimate or underreport trauma symptoms in their children (Chemtob & Carlson, 2004; Davis & Siegel, 2000; Valentino, Berkowitz, & Stover, 2010) due to traumatic avoidance (Cohen & Scheeringa, 2009) or due to minimising the impact that DA has had on their children (Levendosky et al., 2002). Underestimating or underreporting child symptoms may reflect a coping mechanism related to feelings of guilt and shame associated with living in a relationship which may have negatively impacted on their child (McCloskey

et al., 1995; Van de Mark et al., 2005). Women's trauma symptoms have also been associated with overestimates of child symptoms due to their own anxiety or determination to receive needed services (Briggs-Gowan, Carter, & Schwab-Stone, 1996; Kassam-Adams, Garcia-Espana, Miller, & Winston, 2006). However, as the families in this study were already receiving services, the risk of overestimation may have been reduced. Kilpatrick and Williams (1998) discussed whether maternal report of child symptoms may be a more accurate reflection of the women's own psychological wellbeing and coping. Children who have experienced trauma can go to great lengths to avoid memories, situations and emotions relating to trauma when they are struggling with high levels of distress (Cortes et al., 2005), and if children do not discuss their experiences and feelings mothers will be unable to report accurately. However child and mother reports have been found to be significantly correlated (McCloskey et al., 1995), and Modrowski, Miller, Howell, and Graham-Bermann (2013) found no statistically significant difference between maternal and therapist report of child PTSD diagnosis rates in pre-school children exposed to DA. English, Newton, Lewis, Thompson, Kotch, and Weisbart (2009) concluded that evidence for bias in maternal reports is mixed and the most likely conclusion is that they are generally accurate although may be incomplete.

Due to difficulties associated with single source self-report, collecting observational data from teachers, police or child protection records would reduce methodological bias although, this was not possible in the current study due to anonymity. Assessing children directly was considered but this was not possible due to the limited numbers attending recruiting services. Authors have noted the potential for re-traumatisation of children taking part in research which involves disclosing distressing events to

strangers and recommended mandatory follow up interviews (Higgins & McCabe, 2003; Lehmann, 2000). The researcher was not known to these children and was not in the position to offer ongoing support and intervention due to the anonymous nature of this research and not working within the services. Even if children had been interviewed, traumatised children may minimise or underreport the extent of their exposure to DA and symptoms following instructions from perpetrators to remain silent, in order to avoid reliving the unpleasant experiences and to protect parents (Hunt, Martena, & Belcher, 2011; Margolin & Vickerman, 2007; McCloskey et al., 1995). However, the importance of giving children an opportunity to have a voice and discuss their experiences is acknowledged. Although it was not possible to directly assess whether children perceived the events as traumatic or distressing, theoretically exposure to DA fits the definition of a traumatic event. In this study when mothers were unsure of their child's symptoms the item was scored zero so that symptoms were not overestimated. Even if this led to underestimated reports, the majority of children scored within the clinical range for trauma symptoms.

The retrospective, self-report measures may have introduced subjective bias. Assessment of DA was based on lifetime exposure and as some women experienced DA over long periods of time there is potential for recall and report bias. Independent or blind assessment was not possible for ethical reasons to allow the researcher to monitor participant wellbeing; however, women were asked to report on their symptoms prior to abuse so the researcher was unaware of the severity of abuse when assessing symptoms. The interview format may have influenced truthful reporting and disclosure because of embarrassment or desire to forget. However, the anonymous, confidential nature of this study may have helped participants to feel they could respond accurately, although limits of confidentiality in relation to child protection

concerns may have influenced truthful reporting. These women were accessing services where they would have likely already discussed experiences of abuse which may have made further discussion with the researcher easier, although under or over reporting cannot be ruled out.

In children, trauma symptoms may have resulted from exposure to other traumatic events not measured or in response to a combination of DA and unmeasured traumatic events. As children exposed to DA are more likely to be exposed to other potentially traumatic events caution regarding attributing trauma effects onto DA is warranted (Osofsky, 2003). Lifetime exposure to other potentially traumatic events was assessed via an interview question, not a standardised measure. The rationale for this was to reduce the number of measures to minimise participant burden although the use of a standardised questionnaire (e.g. to assess community violence) would have been more comprehensive and may have improved the accuracy of reports, analysis and results.

Generalisability

The results of this study may not generalise past the sample of women and children experiencing DA represented in this study who had identified abuse, were seeking help and had accessed services and may not fully represent these women due to the self and staff selected sample. Children under the age of five years were not represented and adolescents were less represented compared to younger children. All women identified themselves and their children as white Scottish or British. Although non-English speaking participants were excluded due to lack of available translation resources, none were identified who met inclusion criteria. This study focused on DA

perpetrated by a male partner and findings may not represent male victims or victims of DA in same-sex couples. All children were biological children of women and findings may be different for children who live with female victims who are step-parents or other kinship carers. These factors limit the generalisation of findings and should be considered while interpreting results.

4.3 Future Research

While attempts were made to investigate a number of predictors of child trauma symptoms unmeasured variables might play an important role in the relationships observed and influence findings. Future studies should identify variables not analysed in this study which may have explanatory power. Potential alternative predictive variables include bullying, child beliefs about the abuse, child guilt or self-blame, whether children felt personally threatened or whether they felt they had control over the event, the child's attachment and relationship to caregivers, child self-esteem, whether the perpetrator was a step or biological parent, parenting stress and style, social isolation, residential instability, poor parental physical health, coping strategies, high levels of general family stress, residential instability and unemployment (Crusto et al., 2010; Dong et al., 2003; Fantuzzo et al., 1997; Holden et al., 1998; Lamers- Winkelman et al., 2012; Lapierre, 2008; MacMillan & Harpur, 2003; Spaccarelli, 1994; Whitfield et al., 2003; Zarling et al., 2013). Assessment of sexual DA was excluded due to concerns about under reporting and participant distress. It may be that certain types of DA are more likely to cause trauma symptoms in women and children and the full experiences of women and children should be investigated in future studies.

The mental health, parenting and relationship of the perpetrator to the child was

not assessed and may have predicted child trauma symptoms. Male perpetrators have been found to be less involved, less engaged, irritable, harsher with more negative perceptions of their children and more likely to use controlling, authoritarian, less consistent, and negative parenting strategies such as frequent anger and hitting compared with other fathers (Bedi & Goddard, 2007; Fox & Benson, 2004; Holden & Ritchie, 1991; Holden et al., 1998; McCloskey et al., 1995). It has been estimated that 60% of DA incidents occur when the perpetrator is under the influence of alcohol (US Department of Health and Human Services (HSS), 1997). As children who live with parents who abuse substances have been found to be three times more likely to be exposed to DA, future research should investigate whether parental substance abuse predicts child trauma symptoms in this population (Turner et al., 2013).

The number of abusive relationships that women had experienced were not measured and may have influenced mother and child outcomes. During interview two women disclosed experiencing more than one abusive relationship but as this had not been routinely measured this could not be controlled for. Two women disclosed being in a new relationship which was not abusive which may also have influenced outcomes either by reducing mother and child distress or alternatively seeing their mother in a new relationship may have been distressing if children were worried about abuse restarting.

Female perpetrated DA with or without the presence of male perpetrated abuse was not assessed and therefore the amount of violence these children have been exposed to may have been underestimated (McDonald et al., 2006). Male-perpetrated violence is more common, severe and likely to cause injury and male victims were not

included in this study in order to make comparisons to the existing literature and assess the relational nature of trauma (Holt et al., 2008). As a large proportion of female- perpetrated and bi-directional DA exists (English et al., 2009; McDonald et al., 2006), and as outcomes can differ depending on the gender of the perpetrator (Moretti, Obsuth, Odgers & Reebye, 2006), this is an area for future study.

Social support has been associated with better physical and mental health outcomes in women victims of DA (Coker et al., 2002; Coker, Watkins, Smith, & Brandt, 2003; Escriba-Aguir et al., 2010; Fortin, Guay, Lavoie, Boisvert, & Beaudry, 2012), and may affect child outcomes. Other protective factors including children's relationships with siblings, extended family members, peers and teachers may positively affect outcomes and should be studied in future research.

Whether children had directly intervened in abuse or whether the perpetrator had been arrested in their presence have been found to predict child trauma symptoms (Jarvis et al., 2005; Phillips & Zhao, 2010). Children who physically intervene may display higher severity of trauma symptoms, due to being more involved in the event. Alternatively, being able to act may have meant the child felt more in control, able to cope with the situation and resulted in less trauma symptoms. Whether children intervened in abuse was not measured in this study and further research is required. Specific experiences such as abuse of pets may be particularly traumatic for children given the importance of pets as confidants, companions and a way of managing stress (Kosonen, 1996; Melson, Schwartz & Beck, 1997) and children's intervention to protect pets during violence (McDonald et al., 2015). Future studies should aim to assess the impact of specific abuse experiences and child maltreatment other than

physical maltreatment; for example, the impact of sexual and emotional abuse on the development of trauma symptoms in a standardised way or corroborate reports via child protection records as this was not possible due to the anonymous nature of this study.

Children under the age of five years were not included due to differences in the presentation of trauma symptoms, requirement of an alternative assessment tool, likelihood of having to meet young children directly and limited access to young children in recruiting agencies. In addition, the purpose of this study was to investigate whether relational trauma applied to an older group of children. Not including children under five years may be the reason that age was not a significant predictor. Adolescents were not as well represented as younger children in the current study, which may also have influenced results. Lack of adolescent representation has also been a problem in past research (Boeckel et al., 2017; Graham-Bermann & Levendosky, 1998; Graham- Bermann et al., 2006; Jarvis et al., 2005; Kilpatrick & Williams, 1997; McCloskey & Walker, 2000; McDonald et al., 2016; Rossman, 2000; Saltzman et al., 2005). In this study, mothers may have been accessing services when their children were younger leading to them being recruited more frequently. Past research has provided inconsistent results on whether age influences the development of trauma symptoms in children exposed to DA. Further research is required and studies should include pre-schoolers and higher numbers of adolescents.

Future research using a longitudinal design would enable assessment of causal relationships, increase understanding of predictors and assess whether outcomes reflect short term adaptation to crisis or long term adjustment (Bernard-Bonnin et al.,

2008; Wolfe et al., 2003). Further research is required to test the observed effects using reports of more than one informant. Overall, this was a small sample recruited from one geographical region of mothers accessing support services following exposure to DA. It is possible that larger samples from wider geographical areas could have led to different results and the limitations of this study should be taken into consideration while interpreting results.

4.4 Clinical Implications

Trauma reactions in children can include emotional, behavioural, psychological, biological, neurological and cognitive symptoms which are associated with distress and impaired social and educational functioning (Cook et al., 2005; Delima & Vimpani, 2011; Margolin, 2005; Margolin & Vickerman, 2007; van der Kolk et al., 2005). Trauma symptoms in children have been found to persist into later childhood, early adolescence and adulthood highlighting the importance of early intervention (Becker & McCloskey, 2002; Von Steen, 1997). In addition, long term effects of traumatic events and trauma symptoms can be severe and associated with high comorbidity (Brewin, Dalgleish, & Joseph, 1996; Dyregrov & Yule, 2006; Perkonigg et al., 2005). Due to the prevalence and impact of symptoms, assessing trauma symptoms in women and children who have experienced DA is essential. Awareness of the link between maternal and child trauma symptoms in families exposed to DA is important to inform assessment, intervention, service provision and prevention. When working in a service with women who have experienced DA and have trauma symptoms it is important to enquire about children and parenting and make appropriate referrals where necessary. Similarly, when working in a child service ensuring women are referred for trauma focused therapy is also important. The majority of women and children in this study were experiencing severe trauma symptoms regardless of the fact that they were attending supportive services and no

women reported that they or their child had received trauma focused psychological intervention, although many had been prescribed a number of medications including antidepressive and anxiolytics. It has been demonstrated that even when children do not score within the clinical range for symptoms or meet diagnostic criteria for PTSD they can still be severely distressed with impaired functioning. Even those who appear resilient may have subtle trauma symptoms and difficulties such as impaired concentration, which may require intervention (Kitzmann et al., 2003; Margolin & Vickerman, 2007). Results highlight the necessity of trauma symptom assessment in mothers and children who have been exposed to DA and suggest effective, evidence based psychological interventions such as trauma focused cognitive behavioural therapy (Gillies, Taylor, Gray, O'Brien, & D'Abrew, 2013), should be family based and administered concurrently to mothers and children due to the relational nature of trauma. Future research should also test the effectiveness of concurrent PTSD intervention for women and children exposed to DA.

5. Conclusion

Trauma symptoms are a common psychological response to chronic traumatic stressors, particularly stressors which are repeated, frequent and unpredictable (Herman, 1992). Given the length and severity of abuse, the number of children living with abuse their entire life and the association with trauma symptoms, the description of DA as an ongoing, chronic stressor is accurate. Findings highlight the importance of the relationship between mothers and their children in the context of DA and trauma symptoms. Treatment should be family based and administered concurrently to mothers and children due to the relational nature of trauma symptoms. Once women receive treatment this will likely enhance the support she is able to give to her child and build their relationship (Scheeringa & Zeanah, 2001). Making positive change within the child's relationship with their primary caregiver is the best predictor of

enhanced child development and improved psychological symptoms (Crockenberg & Leerkes, 2000; Zeanah, Boris & Scheeringa, 1997).

6. References

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Appendix 2.1
Research Protocol



Doctorate in Clinical Psychology
Thesis Research Proposal (for Research 1
assessment).

This form should be completed and submitted as the assessment for Research 1. It will then be reviewed by a member of the academic team and will receive a grade and detailed feedback. The feedback will include an evaluation of the viability of the project and any recommendations. If there are significant concerns about viability, the project will be flagged to the research director and the research committee will decide whether the project can proceed in its current form.

Provisional Thesis Title: Is domestic abuse related to trauma symptoms in women and children and does the severity of maternal depression and maternal trauma symptoms moderate the relationship between child exposure to domestic abuse and child trauma symptoms?

Allocated Thesis Project

Supervisors Clinical: Dr
Marie Renaud Academic
1: Dr Jill Cossar Proposed
setting(s): NHS Fife

Anticipated Month & Year of Submission of Thesis: 1st May 2017

Version (date): 12th December 2014

Introduction

The Home Office (2006) defines domestic abuse (DA) as, “any incident of threatening behaviour, violence or abuse (psychological, physical, sexual, financial or emotional) between adults who are or have been intimate partners or family members”. p.6. The National Health Service (NHS) in Scotland (2009) describes DA as being characterised by, “coercive control” which escalates in frequency and severity over time. DA affects individuals of different ages, socioeconomic status, religion, sexuality and level of ability and can begin at any time in a relationship (NHS Scotland, 2009).

There appear to be gender differences in the experience of DA. Although men are now being recognised as suffering from DA at higher rates than originally thought, Ridley and Feldman (2003) and Mirrlees-Black (1999) found that experiences of men and women victims of DA differ. In general, women reported more chronic and severe abuse. Of the people exposed to more than four incidents of DA, 89% were women and women were more likely to experience injury. Smith et al. (2010) found that women are more likely to experience repeated and more severe DA, over a longer period of time. Some authors have found that in general women’s use of violence is defensive in nature (Hester, 2009).

The Home Office (2006) estimates that one in four women are exposed to DA in their lifetime. In 2010-2011 at least 12 million women and 784 thousand men aged 16 to 59 years in England and Wales experienced DA and at least 29.9% women and 17% men in England and Wales have experienced DA at some point in their lives (Smith et al., 2012). The National Institute for Health and Clinical Excellence (NICE) Guidelines for Domestic Violence and Abuse (2014) note that these figures are likely to be an underestimate of actual prevalence due to under-reporting of DA.

Outcomes in victims of DA include physical injuries, complications of pregnancy including injury to foetus, miscarriage and premature birth and psychological problems including depression, anxiety, eating disorders, post-traumatic stress, substance abuse, somatic complaints, sleep disorders, self-harm and suicide (The Home Office, 2005). Oram et al. (2013) found that 25-56% of female psychiatric patients reported DA in their lifetime. In addition to the cost to an individual’s quality of life, Walby (2009) estimated that in 2008 DA cost the United Kingdom £15.7 billion pounds. Physical health treatment of DA costs 3% of the NHS budget in England and Wales, without considering the impact of psychological treatment. These figures are assumed to be an underestimate of real financial costs as information on the amount of services being utilised as a result of DA are not routinely collected.

Holden (2003) described the variable nature of children’s exposure to DA. Exposure can range from intervening or being caught up in the incident, directly observing the incident, hearing the incident, observing

the effects of the incident including broken objects, physical injuries and psychological outcomes in those involved or overhearing conversations about the incident. Bedi and Goddard (2007) use the term, 'children forced to live with domestic abuse' to reflect the range of experiences children are exposed to when witnessing DA and their lack of choice in exposure.

Fantuzzo et al. (1997) reported on a five city American study on children forced to live with DA where data were gathered from police officers attending DA incidents. Children were found to be disproportionately represented in homes where DA was present. Children under five years of age were more likely to be exposed to multiple incidents of DA. Mirrlees-Black (1999) in a British Crime Survey found that half of British women who reported DA confirmed they were living with children. 24.8% of 18 to 24 years olds report that they had experienced DA in their childhood (Meltzer et al., 2009). Radford et al. (2011) found that 3% of children and adolescents under seventeen years had experienced DA in the past twelve months.

From January 2005, section 120 of The Adoption and Children Act (Home Office, 2002) includes in the legal definition of harming children, 'seeing or hearing the ill treatment of others'. The Royal College of Psychiatrists (2004) lists a number of effects on children from witnessing DA that include anxiety, depression, sleep disorders, physical symptoms, enuresis, school problems, tantrums and aggression, withdrawal, low self-worth, school refusal, eating disorders, substance abuse and self-harm. Meta-analytic studies of children forced to live with DA have documented poor outcomes related to internalising behaviours, externalising behaviours, academic abilities and social skills (Kitzmann et al., 2003, Wolfe et al., 2003).

The effects on children of being forced to live with DA can begin in pregnancy. DA during pregnancy has been associated with miscarriage, low birth weight and maternal use of substances including alcohol, nicotine and drugs (Huth-Bocks et al., 2004).

DA is thought to be particularly problematic to children's development because it typically involves people known to the child. The relationship between the child and both the perpetrator and victim of abuse can be affected (Humphreys et al., 2006). Children less than three years of age who are forced to live with DA are more likely to have an insecure attachment style (Zeanah et al., 1999). The experience of DA may affect the child's trust that the attachment figure will provide a source of protection and safety (Groves et al., 2000).

Infants and preschool children forced to live with DA may fail to thrive, have difficulties eating, sleeping, and experience developmental delay, behaviour problems, social difficulties, enuresis, hair loss, anxiety, fearfulness, sadness, crying and withdrawal (Huth-Bocks et al., 2001, Radford et al., 1999). School age children have been found to experience depression, sleeplessness, nightmares, aggression, self-harm and negative effects on their school performance (McGee, 2000). Adolescents forced to live with DA can display low self-esteem, substance abuse, antisocial behaviour, depression, difficulties relating to peers, aggression, self-harm and suicidal behaviour (Roberts et al., 2003). The effects on children forced to live with DA can continue to have a negative impact in adulthood and cycles of violence can be maintained by child witnesses becoming victims or perpetrators of DA in adulthood (Levendosky & Graham-Bermann 2001).

Overall, children in the youngest age groups appear to exhibit more negative outcomes than older children (Edleson, 1999; Hornor, 2005), although this finding is not universal (McFarlane et al., 2003). Explanations for why younger children may show more adverse effects include younger children being more dependent and emotionally involved with parents, less able to leave the violent situation, having less understanding of the situation and having less developed and available coping resources (Graham-Berman & Levendosky 1998; Levendosky et al., 2002). Studies have found mixed results when investigating the impact of gender on child outcomes. Some studies have found boys more likely to display a range of negative outcomes although other studies have found reverse findings with girls more likely to display a range of negative outcomes. Some studies have found boys more likely to show externalising behaviours and girls internalising yet other studies have found no differences in outcomes between gender (O'Keefe, 1994; Yates et al., 2003). In a meta-analysis of 118 studies (Kitzmann et al., 2003) and a meta- analysis of 41 studies (Wolfe et al., 2003) comparable effect sizes were found for gender differences in outcomes of children forced to live with DA.

Although evidence suggests there are a variety of negative outcomes for children who are forced to live with DA, children show variations in their responses and not all children show adverse effects (Edleson, 1999). Lapierre (2008) describes various factors that moderate the impact on children including the duration, frequency and severity of DA and the existence of other stressors within the family including the child's relationship to caregivers, the perpetrators relationship to the child, parental mental illness, substance abuse, poverty, socioeconomic status, the child's coping skills, whether the child is a victim of other types of maltreatment and abuse, age and gender of the child and time since exposure to the abuse. Children's beliefs and appraisals related to their understanding of the violence also seem to affect outcomes as greater self-blame and perceived threat have been related to greater psychological problems (Grych et al., 2000; Skopp et al., 2005).

As noted by Lang and Smith Stover (2008) in comparison to other outcomes that have been measured in children forced to live with DA, post-traumatic stress disorder (PTSD) symptoms have been studied less

frequently. In Wolfe et al. (2003) meta-analysis of 41 studies, only three of the studies had included measures of trauma symptoms. Wolfe et al. (2003) concluded that although some studies suggest that children forced to live with DA can develop trauma symptoms more research is required before conclusions can be made.

Studies that have investigated trauma symptoms in children forced to live with DA have found trauma symptoms although incidence of PTSD diagnosis rates are variable ranging from 13% (Graham-Bermann & Levendosky 1998) to 56% (Lehmann, 1997). Studies investigating outcomes in children often use shelter samples to assess the effects of DA on children. The difficulty in using shelters samples to assess trauma symptoms is that not only are these children experiencing the trauma of witnessing abuse but they also have left their family home, possessions, friends and often school behind them so often results can be complicated by the multiple changes these children have experienced in addition to settling into new accommodation in the shelter. Further, the abuse experienced in shelter populations has often been severe and therefore the outcomes observed may not represent the effects of a range of experiences that children can be exposed to when being forced to live with DA (Knutson et al., 2009).

Investigating the effects of DA on children's trauma symptoms is important for a number of reasons discussed by Lang and Smith Stover (2008). Witnessing violence between caregivers and being in close proximity or overhearing violent exchanges has the potential to be highly traumatic. Trauma symptoms are a frequent outcome in adult victims of DA (Ybarra et al., 2007). McCloskey et al. (1995) found no evidence that maternal psychological difficulties increased child psychological difficulties in addition to the effects on children of being forced to live with DA. Further, Kilpatrick and Williams (1998) did not find maternal psychological health to mediate the relationship between trauma symptoms in children forced to live with DA. Therefore, the evidence is inconclusive on whether maternal trauma symptoms are associated with trauma symptoms in their children.

Jarvis et al. (2005) found that frequency and duration of exposure to DA was related to trauma symptoms. Trauma symptoms in children have been found to persist into later childhood, early adolescence (Becker & McCloskey, 2002) and adulthood (Von Steen, 1997) indicating the importance of detection and treatment.

In summary, many children are forced to live with DA and children are commonly present in the same or next room during incidents. Exposure can lead to a wide range of negative outcomes in children which can impact on their development. Of the observed negative effects of DA on children trauma symptoms have been studied less frequently than other outcomes. Although younger children seem to develop more negative outcomes compared to older children this may not be the case in trauma symptoms where young children may not be fully aware of the risk and danger. Although some children who are forced to live with DA display negative outcomes, others do not. Maternal depression and maternal trauma symptoms have been shown to have some effect on child outcomes although evidence is inconclusive. It is unclear whether maternal depression and maternal trauma symptoms impact on children's level of trauma symptoms directly. Whether symptom patterns present in children are related to maternal functioning it is important to investigate to plan interventions and reduce maternal and child distress following exposure to DA. It is important to determine whether association between maternal trauma symptoms and depression are related to children's trauma symptoms as it may be important to treat mother's distress before any improvements will be seen in children's outcomes.

The purpose of this study is to investigate whether exposure to DA is related to trauma symptoms in women and children. The data will be further analysed to investigate whether severity, frequency and duration of exposure to DA, child age, child gender, maternal trauma symptoms and maternal depression moderate the relationship between children's exposure to DA and the child's trauma symptoms. As this information is not clear from current available research, investigating whether relationships exist between DA and trauma symptoms in women and children in a clinical and voluntary community sample will add to the evidence base. Investigating whether the proposed predictors moderate the relationship between children's exposure to DA and their trauma symptoms will allow for best interventions to be planned for children and their mothers, thus following guidelines from the National Domestic Abuse Delivery Plan for Children and Young People (Scottish Government 2008) and NICE guidelines on Domestic Violence and Abuse (2014). If it is found that children's symptoms are moderated by mothers it would indicate that child and adult services for treatment on trauma following DA should be delivered in combination with both mothers and their children being treated concurrently.

Research Questions / Objectives:

Is domestic abuse related to trauma symptoms in women and children?

1. Does severity of maternal trauma symptoms moderate the relationship between children's exposure to DA and child trauma symptoms?
2. Does severity of maternal depression symptoms moderate the relationship between children's exposure to DA and child trauma symptoms?
3. Does the severity, frequency and duration of exposure to DA moderate the relationship between children's exposure to DA and child trauma symptoms?

4. Does child age moderate the relationship between children's exposure to DA and child trauma symptoms?
5. Does child gender moderate the relationship between children's exposure to DA and child trauma symptoms?

Methodology

Clinician's working within the Child and Adolescent Mental Health including Clinical Psychology Service (CAMHS) across Fife will inform clients who they are working with who have experienced DA, of this study. Information will be provided to potential female and child participants by the individual clinician and the participant information form will be discussed. The clinician will answer questions and direct potential participants to the main researcher's contact details to enable additional questions to be addressed. Potential participants will have time between appointments (for as long as needed within the data gathering time period of this project) to consider whether they wish to participate and to generate any additional questions they may have. Confidentiality and limits to confidentiality will be explained to the participants of participating in this study (information will remain confidential unless there is a safety risk identified whereby appropriate services to address the risk will be contacted).

If individuals decide to participant they will be asked to contact the main researcher who will meet them in the clinic to ensure they are fully informed and gain consent. As potential participants may have already formed a therapeutic relationship with the CAMHS clinicians they may prefer (as an alternative to meeting with the main researcher), to complete the questionnaires with support from their clinician. If participants consider this option to be more supportive, the CAMHS clinicians will gain informed consent by following a checklist from the main researcher to ensure that all participants are receiving the same information and they will provide practical and emotional support to participants when completing the questionnaires.

Mothers of children under five years old will not be included in this study due to difficulty assessing trauma symptoms in children under age five years and smaller numbers of children under age five years being referred to the CAMHS including clinical psychology service.

The questionnaire pack to be given to mothers who have children aged five to ten years contains a demographic questionnaire (maternal report) the Severity of Violence Against Women Scale (maternal report of exposure to threats and physical domestic abuse), the Psychological Maltreatment of Women Inventory (maternal report of exposure to psychological domestic abuse), the Impact of Events Scale (maternal report of maternal trauma symptoms), The Parent Report of Post-traumatic Symptoms (maternal report of child trauma symptoms) and the Depression, Anxiety Stress Scales (DASS) (maternal report of depression, anxiety and stress symptoms). Further information about these measures is provided below. The child's mother will be asked to complete all of the questionnaires above.

The same methodology will be used in the voluntary agencies participating in recruitment for this study which include Fife Women's Aid, The Cedar Project, The Freedom Project and the Kingdom Abuse Survivors Project. Instead of participants having the option of completing the questionnaires with CAMHS clinicians it will be with the voluntary sector worker instead if they prefer this option to meeting with the main researcher.

The data gathered will be analysed to investigate whether exposure to DA is related to trauma symptoms in women and children and depression symptoms in women in a community clinical and voluntary sector sample. The data will be further analysed to investigate whether maternal trauma symptoms, maternal depression symptoms, child age, child gender and duration, severity and frequency moderate the relationship between child exposure to DA and child trauma symptoms. The data from these analyses will be used to inform service provision and identify whether treatment of female and child trauma symptoms following DA should be delivered concurrently.

The main researcher will seek ethical approval prior to commencing this study from The University of Edinburgh School of Health in Social Science, the NHS Integrated Research Application System (IRAS) and the Caldicott Guardian.

Potential risks to this project include not being able to achieve an adequate sample size and power. Due to this potential risk the author has contacted CEDAR Fife (Children Experiencing Domestic Abuse Recovery) regarding recruiting people who may wish to participate in this study. CEDAR is a psychoeducational, multi-agency initiative for children and young people who have behavioural, emotional or social difficulties as a result of experiencing DA. CEDAR provides a twelve week therapeutic group work programme for children and adolescents and a concurrent separate group work programme for their mothers. Multi-agency collaboration is a key underpinning principal of CEDAR and senior managers from education, police, social work, health and Fife Women's Aid form a local advisory group and work alongside CEDAR staff to consider evaluation data, project outputs and service development. The same methodology will be used as described above. Mothers who attend CEDAR will be given information about this study given a questionnaire pack if they are interested in participating. Potential participants can contact the author for any further information or assistance

completing questionnaires. Alternatively, they can talk directly to their individual group worker. The same questionnaires will be provided for completion and sent back to Lisa Ahern, Trainee Clinical Psychologist.

Fife Women's Aid has also agreed to recruit participants for this study. Fife Women's Aid is a charity that supports women, children and adolescents who have or are currently experiencing DA. Women's Aid provides confidential support for women, children and adolescents, advice about housing, benefits, legal issues, refuge services and confidential counselling services. Women will be informed about the study by their individual support worker. Questionnaire packs will be given to women who are interested in participating in the study. Lisa Ahern (Trainee Clinical Psychologist's) contact details will be provided and she will be available to answer any questions that potential participants may have. Questionnaire packs will be given to women who are interested in participating in the study. Lisa Ahern (Trainee Clinical Psychologist's) contact details will be provided and she will be available to answer any questions that potential participants may have.

The Fife Freedom Programme has also agreed to recruit potential participants for this study. The Freedom Programme is a twelve week group based course designed to help women make positive life choices, improve their confidence and assertiveness and gain support through the group. Women will be informed about the study by their individual group worker. Questionnaire packs will be given to women who are interested in participating in the study. Lisa Ahern (Trainee Clinical Psychologist's) contact details will be provided and she will be available to answer any questions that potential participants may have.

The Kingdom Abuse Survivors Project (KASP) domestic abuse worker has also agreed to recruit participants for this project. KASP provides individual therapeutic support and counselling to people who have experienced childhood sexual abuse, domestic abuse and mental health difficulties.

Inclusion criteria:

1. Mothers with children aged five to eighteen years who have been referred to the CAMHS including clinical psychology service.
2. Mothers with children aged five to eighteen years who have been referred and are attending CEDAR Fife.
3. Mothers with children aged five to eighteen years who have been referred and are attending Fife Women's Aid.
4. Mothers with children aged five to eighteen years who have been referred and are attending the Fife Freedom Programme.
5. Mothers with children aged five to eighteen years who have been referred to and are attending KASP.
6. Mothers who provide informed consent.

Exclusion criteria:

1. Mothers of children under age five years and smaller numbers of children under age five years.
2. Mothers who do not speak English/who require an interpreter (this is a limitation but an alternative design would be necessary as there is no translation of the questionnaires available and they are valid in English).

6) How will data be collected?

Data will be collected from mothers of children aged five to eighteen years using self-report questionnaires. The measures have been chosen for their relevance to the area being studied and for their psychometric properties.

Severity of Exposure to Domestic Abuse – Maternal Report:

Severity and frequency of exposure to physical DA will be assessed using the Severity of Violence Against Women Scale (SVAWS) (Marshall, 1992). The SVAWS is a 46 item scale developed to assess the frequency and severity of physical aggression against women by their male partners. The mother responds to items using a four-point likert-type scale; never, once, a few times, many times or not in the past year but has happened before. The SVAWS has three subscales that differ in the degree of severity; threats of violence, acts of violence and sexual aggression. The overall internal consistency coefficient alphas ranged from 0.92 for female college students and

0.89 to 0.96 for women in the community (Marshall, 1992). For the purpose of this study the threats of violence and acts of violence subscales will be used to assess severity of physical aggression meaning that the SVAWS will be a 40 item measure.

The Psychological Maltreatment of Women Inventory (PMWI) short form (Tolman, 1999) will be used to assess psychological DA. The PMWI short form is a 14 item six point likert-type scale; never, rarely, occasionally, frequently, very frequently, not applicable. For the purpose of this study the not applicable option will be amended to not in the past year, but before to assess previous exposure to psychological maltreatment. The PMWI has two subscales; dominance-isolation subscale and emotional-verbal subscale. The dominance-isolation subscale measures behaviours related to isolation from resources, demands for subservience and rigid observations of traditional sex roles. The emotional-verbal subscale measures

behaviours related to verbal attacks, attempts to demean the partner and withholding emotional resources (Tolman, 1999). Coefficient alphas were 0.88 for the dominance-isolation scale and 0.92 for the emotional verbal scale (Tolman, 1999).

Mothers Trauma Symptoms:

The Impact of Events Scale Revised (IES-R) (Weiss & Marmar, 1997) will be used to assess maternal trauma symptoms. The IES-R is a 22 item self-report scale (approximately 8 minutes to complete) where participants rate how often they have experienced each post-traumatic stress symptoms within the past week. For each item, e.g., "I had trouble falling asleep, I had trouble concentrating", participants are asked to rate whether they experience this 0=not at all, 1=a little, 2=moderately, 3=quite a bit, 4-extremely. The IES-R score is the sum of the mean score of items on three clinical scales; avoidance, intrusion and arousal. The IES-R showed high internal consistency, with coefficient alpha's ranging from 0.87 to 0.92 for intrusion, 0.84 to 0.85 for avoidance and 0.79 to 0.90 for hyperarousal (Weiss & Marmar, 1997). Test-retest correlation coefficient alpha ranged from 0.57 to 0.94 for intrusion, 0.51 to 0.89 for avoidance and 0.59 to 0.92 for hyperarousal (Weiss & Marmar, 1997).

Childs Trauma Symptoms – Maternal Report:

The Parent Report of Post-Traumatic Symptoms (PROPS) (Greenwald & Rubin, 1999) will be used to assess maternal report of child trauma symptoms in children aged 5-18 years. The PROPS is a 32 item parent report of a broad range of trauma symptoms from the last seven days (takes approximately five minutes to complete). Each item is scored by a 3-point rating: 0=not true or rarely true, 1=somewhat or sometimes true, 2=very true or often true. A total score of over 16 is indicative of clinical trauma symptoms. The PROPS showed high internal consistency, with coefficient alphas ranging from 0.87 to 0.91 (Greenwald and Rubin 1999). Average test-retest correlation coefficients were 0.79.

Mothers Depression:

The Depression, Anxiety and Stress Scales (DASS) will be used to measure maternal depression. The DASS is a 21 item measure that contains 7 items assessing depression, 7 items assessing anxiety and 7 items assessing stress. The participant is asked to self-report their symptoms over the last week for example; "I found it hard to wind down" 0=never, 1=sometimes, 2=often, 3=almost always. The scores for depression, anxiety and stress are each categorised into normal symptoms, mild symptoms, moderate symptoms, severe symptoms and extremely severe symptoms. Internal consistency of the DASS subscales was high with coefficient alphas of 0.94 for depression, 0.88 for anxiety and 0.93 for stress.

Sample Size

Neyman and Pearson (1933) as cited in Fritz and MacKinnon (2007) define statistical power as, "*the sensitivity of a null-hypothesis test to detect an effect when an effect is present*" p.3. Power is considered sufficient at 0.8 (Cohen 1990) as cited in (Fritz and MacKinnon 2007).

Green (1991) provides a review of procedures used to determine sample size for regression analysis. Green (1991) suggests: $N > 50 + 8m$ (where m = number of independent variables). As there are seven independent variables for the regression analysis, the hypothesised moderators (mother's trauma symptoms, mother's depression symptoms, child age, child gender, severity of DA, frequency of DA and duration of DA): $50 + 8(x7) = 50 + 56 = 106$. Harris (1985) suggests that the minimum number of participants for a regression analysis should exceed the number of predictors by at least 50. As there are 7 predictors: $50 + 7 =$ minimum 57. Therefore, the minimum sample size is 57, ideally the sample size should be 106 participants.

Outline reasons for your confidence in being able to achieve a sample of at least this size. (e.g. by giving details of size of known available sample(s), percentage of this type of sample that typically participate in such studies, opinions of relevant individuals working in that area)

There are approximately 1500 new referrals to the child clinical psychology service every year. Given that 25% of women are victims of DA in the general population this suggests that 375 women and their children who present to the service on a yearly basis may have been victims of DA. From clinical experience, there appears to be a number of children who have been exposed to DA being referred to the service.

Fife Women's Aid has contact with 900 women each year through their service who have in the past or are currently experiencing DA. The Freedom Programme has 150 women each year completing their group work. CEDAR Fife has 100 women and children attending their group work sessions over a year. The KASP therapist has approximately 30 people each year on her caseload who have experienced DA. It is hoped that through these various agencies sample size will be achieved. If required sample size was not achieved over the period of one year there is scope for the data collection time period to be extended if necessary.

Analysis

The data will be initially analysed by looking at descriptive statistics to identify whether data is normally distributed and determine which statistical tests will be applied. Correlation analysis will be used to investigate whether relationships exist between exposure to DA and trauma symptoms in women and children and depression symptoms in women. A regression coefficient will be used to investigate whether the

hypothesised moderators (severity of maternal depression symptoms, severity of maternal trauma symptoms, severity, frequency and duration of exposure to DA, child age, child gender) alter the strength of the relationship between child exposure to DA (X) and child trauma symptoms (Y). A moderator variable is hypothesized to alter the strength of the relationship between two variables.

Project Management: Timetable

10) Outline a timetable for completion of key stages of the project. (E.g. ethics submission, start and end of data collection, data analysis, completion of systematic review).

- Thesis research proposal – May 2014
- Prepare questionnaire packs – June-July 2014
- Ethics applications – June 2014
- Completion of systematic review – December 2014-June 2015
- Participant recruitment and data collection – February 2015- February 2016
- Data analysis – June 2015 – March 2016
- Completion of introduction and methods chapter – Oct 2014 – Apr 2015
- Completion and write up – October 2015 – March 2017
- Hand in – May 2017

Management of Risks to Project

A potential risk is not achieving adequate sample size. This could occur from potential participants not consenting to the study, clinicians not routinely recruiting participants due to time constraints or forgetting about the study in routine clinical practice. The author hopes that once the importance and nature of the study has been described to participants and clinicians that they will be motivated to be involved in providing best services and determining need for service within this population. Harne and Radford (2008) note that most studies indicate that women do not object to being asked about DA and disclose DA when asked. As discussed previously The CEDAR Project, The Freedom Programme, KASP and Fife Women's Aid have agreed to ask mothers who attend the projects whether they would like to participate in this study.

Knowledge Exchange

Reporting and dissemination of the results of this study will include presenting results locally within the NHS and at any appropriate conferences. Findings will be available for those participating in the study and clinicians working within CAMHS and clinical psychology service. Findings will also be available for those clinicians working within DA services. The thesis will be submitted as part of the Doctorate in Clinical Psychology at the University of Edinburgh. In addition, the author will submit to relevant peer reviewed journals for publishing.

The identification of child trauma symptoms, maternal trauma symptoms and maternal depression in women and children who have experienced DA and how these variables moderate the relationship between children's exposure to DA and children's trauma symptoms may highlight the importance of appropriate treatment options. Treatment of child trauma symptoms or referral for women to appropriate adult services for the treatment of trauma or depression may be appropriate. Referral to appropriate voluntary services such as Women's Aid and the specific therapeutic DA group work in CEDAR may be beneficial for clients attending clinical psychology who do not currently access these services. Joint treatment approaches where mothers and children are treated concurrently may be important to achieve best outcomes. These various treatment options may help women and child outcomes in those who have been forced to live with DA.

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I confirm that both my academic and clinical supervisors have seen and approved this research proposal and have both completed the supervisors' appraisal forms below.

Yes

Appendix 2.2

Ethical and Research and Development Approval

Amended 23/03/2015



**East of Scotland Research Ethics Service
(EoSRES)
Research Ethics Service**

Research

Tayside medical Science Centre
Residency Block Level 3
George Pirie Way
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Ms Lisa Ahern
Department of Clinical Psychology
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Dunfermline, Fife.
KY11 4UW

19 March 2015

LR/15/ES/0008
Mrs Lorraine Reilly 01382
383878
eosres.tayside@nhs.net

Date:
Your Ref:
Our Ref:
Enquiries to:
Direct Line:
Email:

Dear Ms Ahern

Study Title:

Is domestic abuse related to trauma symptoms in women and children and does the severity of maternal depression and maternal trauma symptoms moderate the relationship between child exposure to domestic abuse and child trauma symptoms?
15/ES/0008

REC reference:

159594

IRAS project ID:

Thank you for your letter of 06 March 2015, responding to the Committee's request for further information on the above research and submitting revised documentation. The further information was considered in correspondence by a Sub-Committee of the REC. A list of the Sub-Committee members is attached.

We plan to publish your research summary wording for the above study on the HRA website, together with your contact details. Publication will be no earlier than three months from the date of this favourable opinion letter. The expectation is that this information will be published for all studies that receive an ethical opinion but should you wish to provide a substitute contact point, wish to make a request to defer, or require further information, please contact the REC Manager, Mrs Lorraine Reilly, eosres.tayside@nhs.net. Under very limited circumstances (e.g. for student research which has received an unfavourable opinion), it may be possible to grant an exemption to the publication of the study.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

Management permission ("R&D approval") should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements.

Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at <http://www.rdforum.nhs.uk>.

Where a NHS organisation's role in the study is limited to identifying and referring potential participants to research sites ("participant identification centre"), guidance should be sought from the R&D office on the information it requires to give permission for this activity.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of approvals from host organisations

Registration of Clinical Trials

All clinical trials (defined as the first four categories on the IRAS filter page) must be registered on a publically accessible database. This should be before the first participant is recruited but no later than 6 weeks after recruitment of the first participant.

There is no requirement to separately notify the REC but you should do so at the earliest opportunity e.g. when submitting an amendment. We will audit the registration details as part of the annual progress reporting process.

To ensure transparency in research, we strongly recommend that all research is registered but for non-clinical trials this is not currently mandatory.

If a sponsor wishes to request a deferral for study registration within the required timeframe, they should contact hra.studyregistration@nhs.net. The expectation is that all clinical trials will be registered, however, in exceptional circumstances non registration may be permissible with prior agreement from NRES. Guidance on where to register is provided on the HRA website.

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

Ethical review of research

sites NHS sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Non-NHS sites

The Committee has not yet completed any site-specific assessment (SSA) for the non- NHS research site(s) taking part in this study. The favourable opinion does not therefore apply to any non-NHS site at present. We will write to you again as soon

as an SSA application(s) has been reviewed. In the meantime no study procedures should be initiated at non-NHS sites.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review Reporting requirements

The attached document “*After ethical review – guidance for researchers*” gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

Notifying substantial amendments Adding new sites and investigators

Notification of serious breaches of the protocol Progress and safety reports

Notifying the end of the study

The HRA website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

User Feedback

The Health Research Authority is continually striving to provide a high quality service to all applicants and sponsors. You are invited to give your view of the service you have received and the application procedure. If you wish to make your views known please use the feedback form available on the HRA website: <http://www.hra.nhs.uk/about-the-hra/governance/qualityassurance/>

HRA Training

We are pleased to welcome researchers and R&D staff at our training days – see details at <http://www.hra.nhs.uk/hra-training/>

15/ES/0008

Please quote this number on all correspondence

Yours sincerely



Dr Stuart Paterson Acting Vice-chair

Email: eosres.tayside@nhs.net

Enclosures:

List of names and professions of members who were present at the meeting and those who submitted written comments. “After ethical review – guidance for researchers”

Copy to:

Ms J Robertson

Dr. Amanda Wood, NHS Fife Research & Development Office



**East of Scotland Research Ethics Service
(EoSRES)
Research Ethics Service**

Research

Tayside medical Science Centre
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Ms Lisa Ahern
Department of Clinical Psychology
Lynebank Hospital Halbeath
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KY11 4UW

31 March 2015

Date: LR/15/ES/0058
Your Ref: Mrs Lorraine Reilly
Our Ref: 01382 383878
Enquiries to: eosres.tayside@nhs.net
Direct Line:
Email:

Dear Ms Ahern

Study Title: **Is domestic abuse related to trauma symptoms in women and children and does the severity of maternal depression and maternal trauma symptoms moderate the relationship between child exposure to domestic abuse and child trauma symptoms?**

REC reference: 15/ES/0008 SSA reference number:
15/ES/0058 IRAS project ID: 159594

The REC gave a favourable ethical opinion to this study on 19 March 2015.

Following site-specific assessment by the Committee, I am pleased to confirm the extension of the favourable opinion to the new site and investigator listed below:

Research site	Principal Investigator / Local Collaborator
The Freedom Programme	Ms L Ahern

The favourable opinion is subject to management permission or approval being obtained from the host organisation prior to the start of the study at the site concerned.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.



1

15/ES/0058

Please quote this number on all correspondence

Yours sincerely

Mrs Lorraine Reilly Senior REC Co-ordinator

Email: eosres.tayside@nhs.net

Copy to: Ms J Robertson
Dr. Amanda Wood, NHS Fife Research & Development Office



Tayside medical Science Centre
Residency Block Level 3
George Pirie Way
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Ms Lisa Ahern
Trainee Clinical Psychologist
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Date: 8 May 2015
Your Ref:
Our Ref: AG/15/ES/0082 (15/ES/0008)
Enquiries to: Arlene Grubb
Direct Line: 01382 383848
Email: eosres.tayside@nhs.net

Dear Ms Ahern

Study title: Is domestic abuse related to trauma symptoms in women and children and does the severity of maternal depression and maternal trauma symptoms moderate the relationship between child exposure to domestic abuse and child trauma symptoms?

REC reference number: 15/ES/0008
SSA reference number: 15/ES/0082
IRAS project ID: 159594

The REC gave a favourable ethical opinion to this study on 19 March 2015.

Following site-specific assessment by the Committee, I am pleased to confirm the extension of the favourable opinion to the new site(s) and investigator(s) listed below:

Research site	Principal Investigator / Local Collaborator
The Cedar Project	Ms Lisa Ahern

The favourable opinion is subject to management permission or approval being obtained from the host organisation prior to the start of the study at the site concerned.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

15/ES/0008

Please quote this number on all correspondence



East of Scotland Research Ethics Service (EoSRES)
Research Ethics Service

Tayside medical Science Centre
Residency Block Level 3
George Pirie Way
Ninewells Hospital and Medical School
Dundee DD1 9SY

Ms Lisa Ahern
Trainee Clinical Psychologist
NHS Fife
Department of Clinical Psychology
Lynebank Hospital
Halbeath Road
Dunfermline

13 April 2015

LR/15/ES/0060
Mrs Lorraine Reilly 01382
383878
eosres.tayside@nhs.net

Dear Ms Ahern

Study title: Is domestic abuse related to trauma symptoms in women and children and does the severity of maternal depression and maternal trauma symptoms moderate the relationship between child exposure to domestic abuse and child trauma symptoms?

REC reference number: 15/ES/0008
SSA reference number: 15/ES/0060
IRAS project ID: 159594

The REC gave a favourable ethical opinion to this study on 19 March 2015.

Following site-specific assessment by the Committee, I am pleased to confirm the extension of the favourable opinion to the new site and investigator listed below:

Research site	Principal Investigator / Local Collaborator
Kingdom Abuse Survivors Project (KASP) 182 Esplanade, Kirkcaldy, Fife.	Ms Lisa Ahern

The favourable opinion is subject to management permission or approval being obtained from the host organisation prior to the start of the study at the site concerned.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.



1

15/ES/0008

Please quote this number on all correspondence

Yours sincerely

A handwritten signature in cursive script that reads 'L. Reilly'.

**Mrs Lorraine
Reilly Senior
REC Co-
ordinator**

Email: eosres.tayside@nhs.net

Copy to:

NHS Fife Research &
Development Office Ms J
Robertson



Tayside medical Science Centre
Residency Block Level 3
George Pirie Way
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Dundee DD1 9SY

Ms Lisa Ahern
Department of Clinical Psychology
Lynebank Hospital
Halbeath Road
Dunfermline, Fife.
KY11 4UW

Date: 31 March 2015
Your Ref:
Our Ref: LR/15/ES/0057
Enquiries to: Mrs Lorraine Reilly
Direct Line: 01382 383878
Email: eosres.tayside@nhs.net

Dear Ms Ahern

Study Title: Is domestic abuse related to trauma symptoms in women and children and does the severity of maternal depression and maternal trauma symptoms moderate the relationship between child exposure to domestic abuse and child trauma symptoms?

REC reference: 15/ES/0008
SSA reference number: 15/ES/0057
IRAS project ID: 159594

The REC gave a favourable ethical opinion to this study on 19 March 2015.

Following site-specific assessment by the Committee, I am pleased to confirm the extension of the favourable opinion to the new site and investigator listed below:

Research site	Principal Investigator / Local Collaborator
Fife Women's Aid	Ms L Ahern

The favourable opinion is subject to management permission or approval being obtained from the host organisation prior to the start of the study at the site concerned.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

Medical Director

Hayfield House
Hayfield Road
KIRKCALDY
KY2 5AH



Ms Lisa Ahern
Department of Clinical Psychology
Lynebank Hospital
Halbeath Road
DUNFERMLINE

Date 31 March 2015
Our Ref 14-064 15/ES/0008
Enquiries to Aileen Yell
E-mail aileen.yell@nhs.net
Telephone 01383 623623 Ext 20940
Website www.nhsfife.org

Dear Ms Ahern

Project Title: Is domestic abuse related to trauma symptoms in women and children and does the severity of maternal depression and maternal trauma symptoms moderate the relationship between child exposure to domestic abuse and child trauma symptoms?

Thank you for your application to carry out the above project. Your project documentation (detailed below) has been reviewed for resource and financial implications for NHS Fife and I am happy to inform you that NHS permission for the above research has been granted on the basis described in the application form, protocol and supporting documentation. The documents reviewed were:

Document	Version	Date
Protocol	2	12 December 2014
REC provisional favourable opinion letter		20 February 2015
Response to provisional REC opinion		5 March 2015
IRAS R&D Form	3.5	11 March 2015
IRAS SSI Form	3.5	23 March 2015
REC final favourable opinion letter		19 March 2015 (amended 23 March 2015)

The terms of the approval state that you are the Principal Investigator authorised to undertake this study within NHS Fife. I note that the favourable ethical opinion applies to all NHS sites taking part in the study therefore no separate Site Specific Review is required in this case.

The sponsors for this study are University of Edinburgh.

Details of our participation in studies will be included in annual returns we are expected to complete as part of our agreement with the Chief Scientist Office. Regular reports of the study require to be submitted. Your first report should be submitted to Dr A Wood, R&D Manager, R&D Department, Queen Margaret Hospital, Whitefield Rd, Dunfermline, KY12 0SU (Amanda.wood3@nhs.net) in 12 months time and subsequently at yearly intervals until the work is completed. A Lay Summary will also be required upon completion of the project.

In addition, approval is granted subject to the following conditions:-

All research activity must comply with the standards detailed in the Research Governance Framework for Health & Community Care (<http://www.cso.scot.nhs.uk/publications/resgov/resgov.htm>), health & safety regulations, data

protection principles, other appropriate statutory legislation and in accordance with Good Clinical Practice (GCP).

Any amendments which may subsequently be made to the study should also be notified to Aileen Yell, Research Governance Officer (aileenyell@nhs.net), as well as the appropriate regulatory authorities. Notification should also be given of any new research team members post approval and/or any changes to the status of the project.

This organisation is required to monitor research to ensure compliance with the Research Governance Framework and other legal and regulatory requirements. This is achieved by random audit of research. You will be required to assist with and provide information in regard to monitoring and study outcomes (including providing recruitment figures to the R&D office as and when required). Please send a copy of all Monitoring Reports submitted to the REC to Allyson.bailey@nhs.net

As custodian of the information collated during this research project you are responsible for ensuring the security of all personal information collected in line with NHS Scotland IT Security Policies, until the destruction of this data.

Permission is only granted for the activities for which a favourable opinion has been given by the REC (and which have been authorised by the MHRA where appropriate).

The research sponsor or the Chief Investigator or local Principal Investigator at a research site may take appropriate urgent safety measures in order to protect research participants against any immediate hazard to their health or safety. The R&D office (aileenyell@nhs.net) should be notified that such measures have been taken. The notification should also include the reasons why the measures were taken and the plan for further action. The R&D office should be notified within the same time frame of notifying the REC and any other regulatory bodies.

I would like to wish you every success with your study and look forward to receiving a summary of the findings for dissemination once the project is complete.

Yours sincerely



DR FRANCES ELLIOT
Medical Director
NHS Fife

Cc : Aileen Yell, Research Governance Officer, NHS Fife, Queen Margaret Hospital, Dunfermline

Appendix 2.3

Participant Information Sheet (Women's Aid Example)



PARENT/ GUARDIAN INFORMATION SHEET

CONFLICT BETWEEN CAREGIVERS AND EMOTION



Introduction

You are being invited to take part in a research study. This information sheet explains why the study is being carried out and what taking part involves. Please take time to read this information carefully and discuss it with others if you wish. This study is being conducted as part of an academic qualification (Doctorate in Clinical Psychology). Please contact Lisa Ahern, Trainee Clinical Psychologist (Main Researcher) using the details at the end of this page if there is anything that is not clear or if you would like more information about this study.

Who is carrying out the study?

The study is being carried out by Lisa Ahern, Trainee Clinical Psychologist (Main Researcher), under supervision from Dr Marie Renaud, Consultant Clinical Psychologist, NHS Fife and Dr Jill Cossar, Lecturer in Clinical Psychology, University of Edinburgh.

What is the purpose of the study?

The purpose of this study is to explore the impact of conflict between caregivers on the emotional health of mothers and their children. Knowing this will allow us to plan appropriate services and help children and families receive the support that they need.

Why have I been asked to take part?

You have been asked to take part in this study because you or your child has been referred to Fife Women's Aid. All people who have experienced conflict with a partner, have children between age 5 and 18 years and are referred to this service will be asked to take part in this study.

Do I have to take part?

No. It is up to you whether you take part or not. A decision not to take part will not affect the standard of care you and your child receive or any future treatment.

What does taking part involve?

This pack contains five questionnaires for you (child's mother) to complete. It will take around 30 minutes for you to complete the questionnaires. The questionnaires have been chosen because the questions being asked are relevant for people who have experienced conflict in a relationship with a partner. Each questionnaire has guidelines attached explaining how to complete it. Please

first read the guidelines then complete all of the questions that you are able to. Feel free to take a break whilst completing questionnaires if you need to. If you need practical or emotional support when completing the questionnaires please ask your service clinician or Lisa Ahern (Main Researcher) who will complete them with you

What happens to the information?

All of the information that is returned is anonymous. This means that no one will be able to identify who has completed the questionnaires. The anonymous data will be stored securely and analysed to explore the impact of conflict between caregivers on the emotional health of mothers and their children. This will help to identify and plan appropriate services. Results will be written up in an academic report and submitted as part of the University of Edinburgh Doctorate of Clinical Psychology training course requirements. The results may be published in an academic journal. You will not be identified in any report or publication.

What are the possible benefits of taking part?

Although there may not be any direct benefits to yourself or your family it is hoped that the results of this study will inform the delivery of services which may benefit you or other families in the future.

What are the possible disadvantages of taking part in this study?

While the questionnaires have been chosen to reduce the risk of you becoming upset some of the questions may cause you to feel upset. You are invited to complete questionnaires with your service clinician or Lisa Ahern (Main Researcher) so that should you experience upset you can get support. If you decide to complete the questionnaires at home and you become upset please contact your service clinician or the resources listed at the end of this information sheet.

Who has reviewed this study?

The East of Scotland Ethics Service REC2, which has the responsibility for scrutinising all proposals for medical research on humans in Tayside, has examined the proposal and has raised no objections from the point of view of medical ethics. It is a requirement that your records in this research, together with any relevant medical records be made available for scrutiny by monitors from The University of Edinburgh and NHS Fife, whose role it is to check that research is properly conducted and the interests of those taking part are adequately protected.

What if you have a complaint?

If you have a concern about any part of this study you can contact the main researcher, Lisa Ahern (Main Researcher) or Dr Jill Cossar (Lecturer in Clinical Psychology) using the contact details below. If you remain unhappy and wish to make

a formal complaint, you can do this through the NHS Fife complaints procedure at the following address:

NHS Fife Headquarters, Hayfield House, Hayfield Road, Kirkcaldy, Fife, KY2 5AH.

If you have any further questions?

If you would like some more information about this study and wish to speak to someone about it, please contact Lisa Ahern, Trainee Clinical Psychologist (Main Researcher), using the following details below:

Lisa Ahern, Trainee Clinical Psychologist, Department of Clinical Psychology, Lynebank Hospital, Halbeath Road, Dunfermline. Telephone: 01383565400.

Dr Jill Cossar, Lecturer in Clinical Psychology, University of Edinburgh, Medical School, Teviot Place, Edinburgh. Telephone: 01316513927.

If you would like to speak to an independent clinician (who is not involved in the study) about this research please contact:

Dr Hilary Maddox, Consultant Clinical Psychologist, Department of Clinical Psychology, Lynebank Hospital, Halbeath Road, Dunfermline. Telephone: 01383565400.

If you are experiencing family conflict and would like to talk to someone or feel that you require additional help for you or your family you can contact:

National Domestic Abuse Helpline:

08000271234. Fife Women's Aid:

08088025555.

Thank you for your time and help in completing this study, Lisa.

Appendix 2.4

Consent Form (Women's Aid Example)



CONSENT FORM

Title of Project: The relationship between conflict (fighting and arguing) between caregivers and the emotional wellbeing of mothers and children.

Name of Researcher: Lisa Ahern

Please
initial
box

1. I confirm that I have read the information sheet dated December 2014 (version 2) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my medical care or legal rights being affected. ☐
3. I understand that data collected during the study, may be looked at by individuals from the University of Edinburgh and NHS Fife. This data is anonymous so you will not be identified. I give permission for these individuals to have access to the data. ☐
4. I understand that the information collected about me and my child may be used to support other research in the future, and may be shared anonymously (you will not be identified) with other researchers. ☐
5. I agree to take part in the above study. ☐

Name of Participant

Date

Signature

Name of Researcher

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